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TWELFTH
ANNUAL REPORT

OF THE

State Inspector
of Coal Mines

1924



BRADDOCK-ROSTWORTH CO. CO.
DENVER, COLORADO
1924

TWELFTH
ANNUAL REPORT

OF THE

State Inspector
of Coal Mines

1924



BRADFORD-ROBINSON PTG. CO.
DENVER, COLORADO
1925

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1924

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PERSONNEL OF COAL MINE INSPECTION DEPARTMENT

JAMES DALRYMPLE, Chief Inspector.....	Denver, Colo.
W. M. LAURIE, Deputy Inspector.....	Trinidad, Colo.
HUGO H. MACHIN, Deputy Inspector.....	Aguilar, Colo.
SAMUEL ANDREWS, Deputy Inspector.....	Walsenburg, Colo.
JAMES W. GRAHAM, Deputy Inspector.....	Lafayette, Colo.
HENRY P. KING, Deputy Inspector.....	Denver, Colo.
ADA R. TIBBITS, Chief Clerk.....	Denver, Colo.
MAX M. GREENWALD, Assistant Clerk.....	Denver, Colo.

FIELD FORCE AND DISTRICTS

- W. M. LAURIE, 512 Ash St., Trinidad, Colo..... District No. 1
Includes the following mines: Primero, Frederick, Sopris. Starkville, Morley, Engleville, Gray Creek. Boncarbo, Piedmont, La Bella, Jeffryes, Santa Fe, Bear Canon. Three Pine, Thor, Macoye, Baldy Mountain, Hines, Keystone, Leone, Henderson, Deep Vein, Liberty, Fisher's Peak, Pickford, Beshoar, Brown, Phillips. Star. Prospect, Toller, Forbes.
- HUGO H. MACHIN, Box 334, Aguilar, Colo..... District No. 2
Includes the following mines: Lester, Ludlow, Rouse, Black Diamond, Rugby, Primrose, Star, Rapson, Southwestern, Jewel, Empire, Royal, Pryor, Cameron, Ravenwood, Ideal, Caprock, Hezron. Bunker Hill, Delagua, Cass, Tabasco, Greenville. Black Diamond, Berwind, Mutual, Brodhead.
- SAMUEL ANDREWS, Box 91, Walsenburg, Colo..... District No. 3
Includes the following mines: Oakdale, Reliance, Cad-dell, Cuchara Canon, Toltec, Pictou, Jobal, Maitland, New Maitland, Vesta, Gordon, Turner, Sunnyside, Kebler Nos. 1 and 2. Walsen, Robinson 1 and 2, and all mines in Fremont county.
- JAMES W. GRAHAM, Lafayette, Colo..... District No. 4
Includes mines in the following counties: Adams, Boulder, El Paso, Jackson, Garfield, Gunnison, Mesa, Montrose, Ouray, Pitkin, and Rio Blanco.
- HENRY P. KING, 1255 Lafayette St., Denver, Colo.... District No. 5
Includes mines in the following counties: Archuleta, Elbert, Jefferson. La Plata. Moffat. Montezuma. Routt, and Weld.

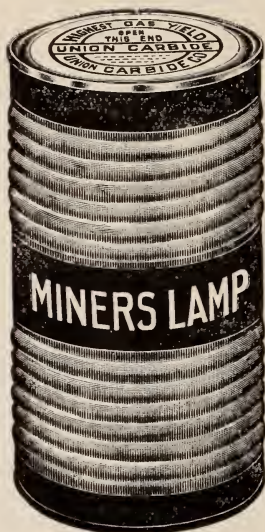
UNION CARBIDE

For Miners Lamps

World's Best Quality---Highest Gas Yield

The product of the originators and developers of the Carbide and Acetylene industry.

Uniform, sustained quality assured by more than a quarter of a century of experience in selecting raw materials, and in perfecting laboratory practice and works processes.



The constant, dependable quality compels recognition of the economies which go with it.

Union Carbide will keep for years in the original package without deterioration.

UNION CARBIDE

PACKED IN
BLUE AND GRAY DRUMS
CAPACITY 100 LBS.

Our remarkable nation-wide service and distributing system makes Union Carbide quickly available everywhere

Miners Lamp Union Carbide is specially prepared for miners' use.

Because of its high gas yield, lamps require less Carbide per charge.

Uniform in size, and carefully screened: this eliminates waste and produces uniform generation of gas.

Due to the great purity of Union Carbide and its gas, the flame is of maximum illuminating power, and constant in size.

Our excellent approved package—the Blue and Gray Drum—is in keeping with our determination to faithfully protect the interests of the operator and the miner in the matter of Carbide quality, from the time the Carbide is packed at the works until it is consumed by the miner.

We have Union Carbide Warehouses in 175 cities.

UNION CARBIDE

Maximum Quality and Exceptional Service

have been developed to maintain the many money-saving and efficiency producing advantages realized by Operators and Miners through the use of Carbide lamps.

Carbide Lamp Advantages

Low Cost of lamp.

Remarkably low cost of upkeep.

Long life of lamp.

Light in weight—Does not handicap miner.

Lamp very compact — No burdensome entanglements. Because of the widely diffused light, miner can easily observe conditions relating to the personal safety of himself and fellow miners. A wonderful aid to mine foremen in getting efficient and economical results.

The Carbide Lamp is easily understood and easily cared for by every miner.

Miner can always assume the posture—standing, bending or kneeling—which will enable him to work with greatest

comfort, and light is always directed just where he needs it.

Greater volume of light than from any other type of mine lamp.

Minimizes number of accidents resulting from poor lights.

Working places can be more easily and thoroughly inspected, and dangerous roof, wall and floor conditions detected with greater certainty.

No eye strain when Carbide lamps are used. Eyestrain means loss of general efficiency.

Carbide Lamp can always be used as convenient Hand Lamp, or can be hung up.

Size of flame and volume of light easily regulated.

Carbide Lamps, used in and about mines, have accomplished more for the comfort and convenience of miners than any other development, invention or device of the twentieth century. Union Carbide Gas light is more nearly like the natural light of the sun than any other light known to man. The miner can accomplish more and better work, with greater ease, comfort and safety, than would otherwise be possible.

Our Blue and Gray Drum is, throughout the world, recognized as a symbol denoting:

**Best Grade Carbide
Highest Gas Value**

**Uniform Dependable Quality
Purest Gas**

UNION CARBIDE SALES COMPANY

Principal Offices:

Peoples Gas Bldg.,
Chicago, Ill.

Carbide and Carbon Bldg.,
New York, N. Y.

Balfour Bldg.,
San Francisco, Calif.

LETTER OF TRANSMITTAL

Denver, Colorado, April 1, 1925.

To His Excellency,

CLARENCE J. MORLEY,
Governor of Colorado.

Sir: Herewith I have the honor to submit to you, in accordance with Section 37 of an Act entitled "Coal Mining Laws," the Twelfth Annual Report of this Department.

The period covered began January 1 and ended December 31, 1924.

Respectfully,

JAMES DALRYMPLE,
State Inspector of Coal Mines.

STATEMENT SHOWING RECEIPTS AND DISBURSEMENTS FROM JANUARY 1, TO DECEMBER 31, 1924

RECEIPTS

Tax collected on coal mined.....	\$34,001.88	
From sales of copies of the Coal Mining Laws.....	401.70	
Refunds and sales of old instruments	54.24	
Advertising in Annual Report	555.00	
Balance brought forward from 1923.....	4,960.91	
Total		\$39,973.73

DISBURSEMENTS

Salary of Chief Inspector	\$ 4,400.00	
Salary of five Deputy Inspectors.....	13,629.14	
Salary of Chief Clerk and Assistant Clerk.....	3,300.00	
Expenses, Chief and Deputy Inspectors.....	4,716.05	
Fatal accident investigators, per diem and expenses....	174.00	
Mileage books (R. R. Transportation).....	1,440.00	
Automobile supplies and repairs.....	2,027.47	
Board of Examiners, per diem and expenses.....	69.90	
Printing	1,748.84	
Postage	551.31	
Stationary supplies	327.55	
Telephone service	112.60	
Telegraph service	22.63	
Instruments	163.00	
Express	2.00	
Miscellaneous	129.51	
Total		\$32,814.00
Surplus December 31, 1924.....		\$ 7,159.73

FIELD EQUIPMENT

One Hupmobile Roadster Coupe	Five Speedometers
Four Ford Coupes	One Carbon Monoxide Gas Detector
Seven Anemometers	Eight Koehler Safety Lamps
One Psychrometer	One Aneroid Barometer
One Geophone	One Burrell Gas Detector
One Gas Testing Box	Five Marseant Safety Lamps

SUMMARY OF THE COAL PRODUCTION OF COLORADO

1924

*Number of mines operated.....	271
Number of new and old mines opened.....	30
Number of mines closed 13; abandoned 6; total.....	19
Tons of sub-bituminous coal produced.....	2,907,134
Tons of semi-bituminous coal produced.....	900,773
Tons of bituminous coal produced.....	6,562,501
Tons of semi-anthracite coal produced.....	60,615
Tons of anthracite coal produced.....	70,065
Total number of tons of coal produced.....	10,501,088
Increase, 1924	164,353
Tons of run of mine coal produced.....	3,324,998
Tons of lump coal produced.....	3,129,364
Tons of nut coal produced.....	955,266
Tons of pea coal produced.....	51,494
Tons of slack coal produced.....	3,039,966
Percentage of slack produced.....	43.3
Tons of coal mined by hand.....	5,645,601
Tons of coal mined by machine.....	4,855,487
Kind and number of machines used: Compressed air 146;	
Electric 289; total	435
Tons of coal mined for shipment.....	8,470,674
Tons of coal shipped out of the state.....	2,188,532
Tons of coal sold to local trade and used by employees.....	560,397
Tons of coal used at the mines for steam and heat.....	209,808
Tons of coal made into coke.....	1,260,209 ⁴
Tons of coke made.....	738,345
Number of days coke ovens were operated.....	337.5
Number of coke ovens used.....	559.5
Number of men employed at coke ovens.....	213
Number of miners employed: Pick 4,782; Machine 3,620; total...	8,402
Number of men employed in and about mines (average).....	12,703
Number of employees foreign born.....	4,421
Number of employees speaking English.....	11,859
Average number of days worked (man-days).....	181.5
Daily production per miner.....	6.88
Annual production per miner.....	1,249.83
Number and type of safety lamps used: Flame 899; Electric	
7,860; total	8,759
Number of carbide lamps used.....	6,142
Number of pounds of carbide used (approximately).....	159,702
Number of pounds of permissible powder used.....	773,343
Number of pounds of black powder used.....	1,504,043
Number of pounds of dynamite powder used.....	49,240
Number of men killed: Underground 41; surface 3; total.....	44
Number of men injured	1,851
Number of men killed per thousand employed.....	3.48
Number of men injured per thousand employed.....	145.71
Number of tons of coal produced for each life lost.....	238,661
Number of tons of coal produced for each non-fatal accident....	5,673
Number of men killed per million tons of coal produced.....	4.19
Number of men injured per million tons of coal produced.....	176.27
Number of men employed per fatal accident.....	288.5
Number of men employed per non-fatal accident.....	6.8
Number of widows left.....	30
Number of children left fatherless.....	74
Cost of development work in mines during 1924: 122 mines	
reporting	\$919,198
Number of days lost account of car shortage: 36 mines reporting.	1,039.5
Number of tons of coal lost through labor shortage: 7 mines re-	
porting	20,087

*NOTE: The yearly reports of nine of the above 271 mines were filed too late to embody their combined production of 1,024 tons in the tables of this Annual Report. However, they are included in the Mine Directory of Table No. 1.

The Royal Fuel Company

Producers of High Grade
B I T U M I N O U S

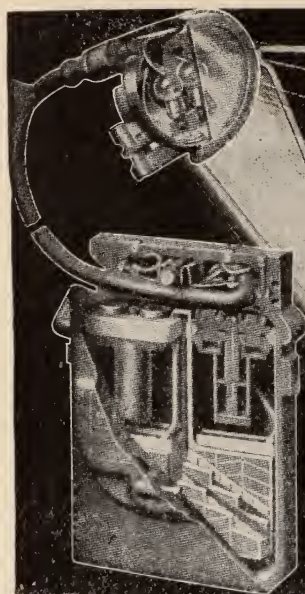
COAL

Certificate U. S. Bureau of Mines B. T. U. 13,596

Royal Coal has given satisfaction at Fort D. A. Russell, Fort Logan, Fort Bliss, Fort Huachuca and Fort Riley.

*The ROYAL Mine has over
two million tons of coal
blocked out*

GENERAL OFFICE
DENVER, COLORADO



WHEAT

ELECTRIC SAFETY MINE LAMP

Lightest in weight
Most light through shift
Rust Proof
Acid Proof
Shock Proof
Two Bulbs
Lowest Cost.

**"WHEAT
for Light"**
U.S. Bureau of
Mines Approval
No. 17

LOWEST COST

The "Wheat" can be completely renewed at mine by use of hand tools only, making reserve equipment unnecessary.

ALWAYS NEW

No depreciation or obsolescence — the Wheat Lamp is always new. The first Wheat Lamp is interchangeable in all parts with the latest development, an important factor in ultimate cost and continuous operation.

WE CAN REFER YOU TO

Hundreds of mines using Wheats for a period of years, including the largest and most modern collieries in the United States.

KOEHLER MANUFACTURING COMPANY

Marlboro, Mass., U. S. A.

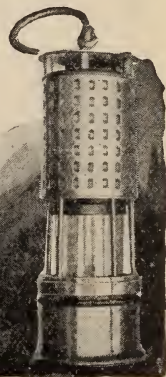
Sales and Service Depots in
all Mine Fields.

Write for nearest address

Ask About the KOEHLER
FLAME SAFETY LAMP

"KOEHLER FOR TESTING"

U. S. Bureau of
Mines Approval
No. 201



Twelfth Annual Report

OF THE

State Inspector of Coal Mines

1924

INTRODUCTION

The year 1924 shows 219 coal companies and individual operators reported the output of 271 mines which amounted to 10,501,088 tons, an increase of 164,353 tons over the preceding year. The average number of men employed in and about the mines was 12,703, or 574 men less than in 1923. Number of man-days worked was 181.5 or 11.6 days more than the year before. Out of the 271 mines recorded in this report, 145 have no railroad connections and supply local trade only. These mines are mostly idle during the spring and summer months.

There were no mine disasters, excepting an explosion at the Alamo mine in which one man was killed. Forty-four lives were lost, and eighteen hundred and fifty-one persons were injured. The death rate per thousand employed equaled 3.48 or 66% of 1923. This is the lowest death rate since 1916. The non-fatal rate per thousand employed equaled 145.71, which is an increase of 15% over 1923. This increase can be probably attributed more to a careful system of reporting these accidents to this Department through The Industrial Commission, than to an increase of mishaps in the mines. We show the non-fatal accidents by causes in Table No. 7.

The tons produced per life lost is 238,661 tons, which gives an increase of 52% over 1923. The tons produced per injury is 5,673 tons, which shows a decrease of 10% as compared with 1923. 52% of the fatal accidents were caused by falls of rock and coal, 25% from mine cars and locomotives. Thirty-five per cent of the injuries were caused by falls of rock and coal, and 23% from mine cars and locomotives. These large percentages from the above named causes convince me of the necessity of practical training in preference to safety engineers, safety committees, and safety rules.

The Twelfth Annual Report has been condensed for the sake of economy. The funds of the Department are low and the prospect of increased production at this time does not look promising. Therefore, every item of expense is considered in order that the inspection force may be kept intact. This function of the Department is most important as it means the saving of life and property and should the field force be reduced it would mean that the inspection of mines must suffer. Therefore, it was thought best to eliminate two of the standardized tables, to-wit: Nos. 2 and 4, because much of the data given in these tables is shown in the

aggregate in the summary of 1924. Also table No. 3 is condensed. Really considering how little information is given in the "Operators Annual Reports" to fill in from on these tables, the expense is greater than is warranted by the scant and often inaccurate data we are able to compile. However, a bill has been presented to the present legislature asking for an increase of coal tax and if this is granted, the Department would like to hear from the operators on the subject and if a number of them consider the omitted tables in this report of value to them, they will be re-embodyed in the next Annual Report.

Electric head lamps have taken the place of open lights in all bituminous mines where explosive gas has been detected by an approved safety lamp, and mines not gaseous, but connected with gaseous mines. Mr. S. S. Murphy, President of The Mutual Coal Company, voluntarily equipped the Ludlow Mine, which is non-gaseous, with the electric head lamps. In the installing of these lamps very little opposition was made by the owners.

Where electric lamps are exclusively used for general purposes, flame safety lamps for testing purposes are an absolute necessity, especially in advance and pillar work, and if put into hands of incompetent persons may prove a serious source of danger instead of a safeguard.

The warm fall and winter effected the coal business seriously and had the demand for the product been normal, the increase of tonnage would have been considerably greater as there were no labor troubles or car shortages. Naturally in the face of bad business there was little done in the way of new developments, but the desire for greater safety in the mines has kept the operators busy putting in new improvements and the cost of same has been great. The science of coal mining has grown vastly and all that human intelligence can devise to improve the sanitary condition of the mines and safeguard life is the problem that the operators are constantly up against.

Total Inspections made in 1924.....	765
Total Producing Mines	271
Number of Fatal Accidents Investigated by Inspectors and Special Investigators	44
Number of Inquests Attended by Inspectors and Special Investigators	40
Scale Inspections	3
Complaints Investigated	31
Prosecutions	17
Miles Traveled by Auto	39,796
Railroad Mileage	\$1,429.36
Inspections per mine	2.8

In conclusion it gives me pleasure to acknowledge the good will and support the operators have uniformly rendered this Department. Also, I thank the Deputies and Clerks who have assisted me by their faithful services in the performance of their

duties. Trusting the year 1925 will bring increased prosperity to the coal industry of Colorado, I respectfully submit this report to all concerned.

JAMES DALRYMPLE,
State Inspector of Coal Mines.

AUTOMATIC FAN SIGNALS

Automatic releases for cutting off electric power from the entire mine. These devices were mentioned in my report for 1922 by D. A. Stout, Manager of the Fuel Department of the Colorado Fuel and Iron Company. He also made mention of a switch situated in the main hoist room, and operated by hoistman in case of runaway trip. This switch cuts off the power from the mine, prevents short circuit by the runaway cars, thereby reducing the chances of a dust explosion from the dust thrown into suspension by the runaway cars. The Automatic Fan Signals and the power releases are operated by the mine ventilating pressure, and can be so arranged as to act at any desired fall in the ventilating pressure of the mine. The Colorado Fuel and Iron Company has equipped several of their mines during the year and several of the other companies are following suit.

I consider the fan signal and power release very important devices, in fact there is a question in my mind as to whether a fan with a single power equipped with them does not give more security than a fan with auxiliary power not equipped with them.

Rock Dusting

The Tescher Rock Duster has proven more than successful in thoroughly rock dusting coal mines to prevent coal dust explosions. This machine is operated by only one man, and completely pulverizes shale or other material, and completely rock dusts the mine at a comparatively small cost.

Hendrie & Bolthoff
Mfg. and Supply Co.
Denver, Colo.

The New Edison

[Model E]

Electric Safety Cap Lamp

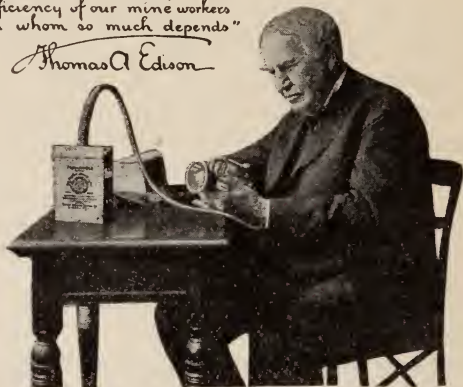
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**Predic-
tion**

16 months
later a General
Manager tells
us:

*"This new lamp should add
much to the safety and
efficiency of our mine workers
on whom so much depends"*

Thomas A Edison



"The other day I visited a mine where your New Lamps had been installed. This neighbor told me the New Edison gave more and cleaner coal with less accidents."

and a Superintendent said:

"Before the lamps were installed I figured the Edison would reduce our tonnage and increase our costs as compared with open lights we had been using. After two weeks I found the tonnage had increased and the costs reduced. The increased efficiency of loaders and transportation men using Edison accounts for it. I am thoroughly sold on the New Edison."



The New Edison provides a clean, powerful light of six candle power. It possesses rugged strength, dependability and long life; is free from acid fumes and corrosion, requires least attention and will stand accidental abuse. Burns 12 hours.

Write for Bulletin No. 101 describing the New Edison

Mine Safety



Appliances Co.

Braddock Ave. & Thomas Blvd. Pittsburgh, Pa.

"Everything for Mine and Industrial Safety"

AUTOMATIC MINE FAN SIGNAL

By O. C. IRWIN, Asst. Chief Electrician,

Fuel Department, C. F. & I. Co.

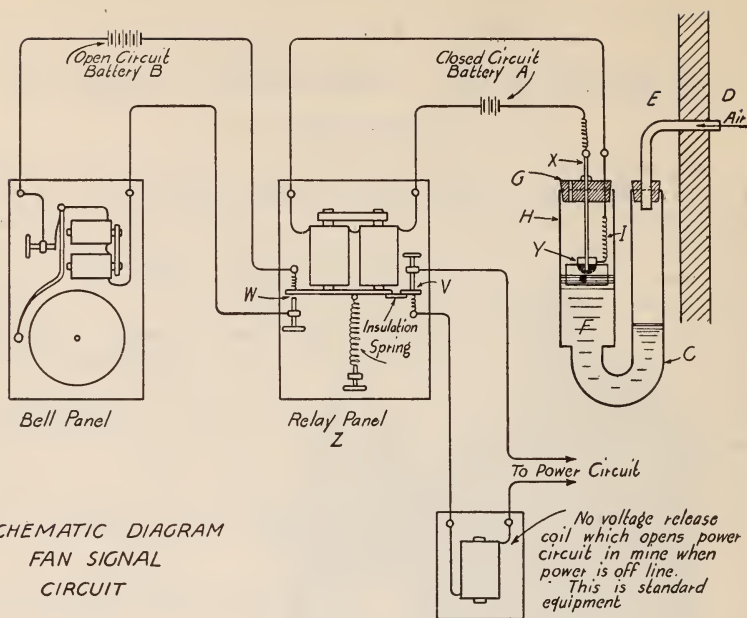
For several years the C. F. & I. Co. men have been working on a fan signal and many different schemes have been tried. I will describe a few of them. A make and break attachment was placed on the fan shaft which caused a light to flicker. A hinged door was placed on air course and counter balanced so that it would have a slight travel when the air pressure was reduced an appreciable amount. This motion was used to open the power circuit, blow a whistle, or ring a bell. Series transformers were placed in motor leads of fan drive motor and the variation in amount of power to motor was used to control the fan signal through a magnet or relay. A governor was placed on the fan shaft which opened a signal circuit when speed of fan was reduced. We tried to produce a machine actuated by the volume of air (that is on the principle of the anemometer), but had to discard this due to its being too delicate.

None of the above schemes seemed to fill the conditions which the State and our Mine Inspector wanted covered. They gave us the following demands for a signal:

1. Must open mine circuit and sound alarm when air pressure was reduced below a certain amount.
2. Must be fool proof.
3. Must work on any kind of fan drive (steam or motor).
4. Must be safe to install in any mine or fan house.
5. Must not depend upon mechanical device which could become inactive due to friction or other causes.
6. Must be as simple and easy to adjust as possible.
7. Must not be affected by very low temperature.
8. Must work on air pressure varying from $\frac{1}{2}$ inch to 12 inches.
9. Must work on either blowing or exhaust fans.
10. If batteries are used it must operate when the current in this circuit is reduced, due to open or short circuit of signal line, or batteries becoming weak.

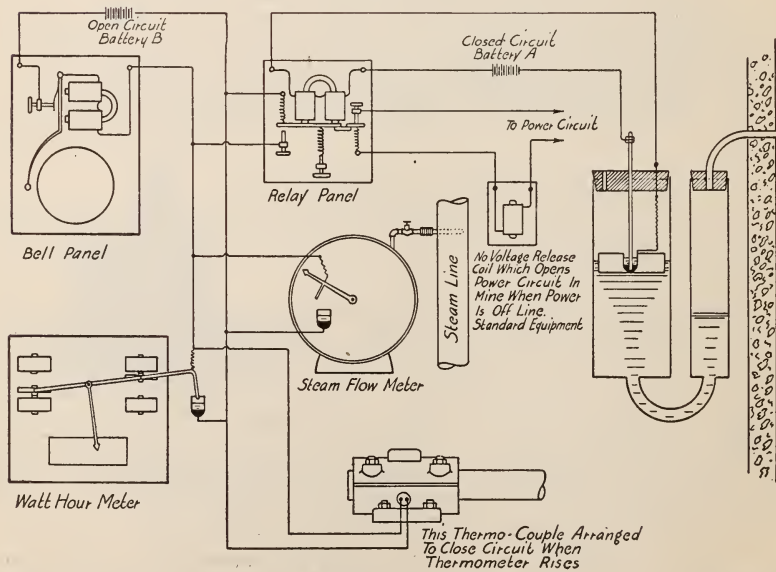
After many trials the following apparatus was decided upon as best meeting the above conditions. This is shown in attached sketch marked "A." A float carrying a cup containing mercury which is covered with transformer oil to extinguish the arc, is placed in one leg of the "U" tube. We place this float in the leg having the highest level in order to use it on a closed circuit as this kind of a circuit must be used to meet condition No. 10. Transformer oil, salt water, glycerine or any other liquid which will not freeze can be used to satisfy condition No. 7.

The "U" tube has one large and one small leg, this being necessary in order that we may get maximum travel of float where



SCHEMATIC DIAGRAM
FAN SIGNAL
CIRCUIT

SKETCH "A"



SKETCH "B"

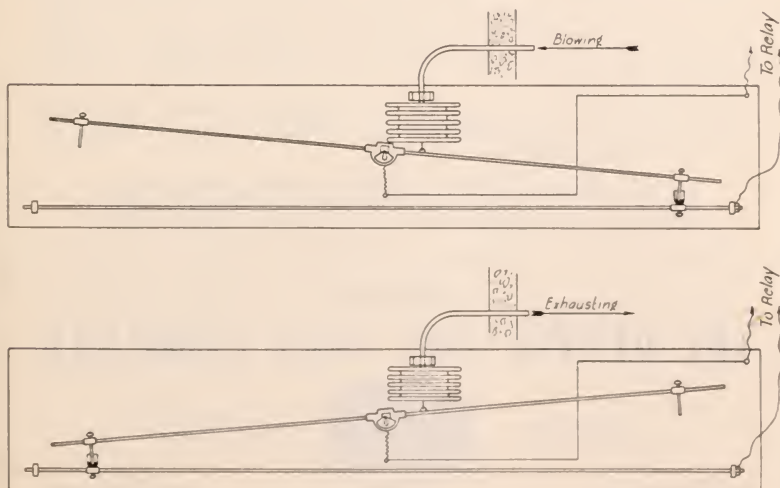
small pressures are used or small travel where pressure is greater, condition No. 8.

The relay is used to control bell and open no-voltage release coil on mine power circuit as it will function when condition No. 10 exists.

During the discussion it was asked, "If there is an obstruction in air course due to fall of rock or coal will this apparatus function?" This apparatus would not take care of this condition, but by the use of one or more placed in the mine the power could be cut off the sections affected and the fan allowed to run providing air to those parts where the proper amount of air was circulating. We have in use in one of the company mines one of these on the fan on the outside, also one at the substation inside the mine which will operate when the air in this section of mine is reduced either by stoppage of outside fan or the prolonged short circuit of air due to leaving doors open too long, or any other cause.

I have asked Mr. G. S. Thompson, our Chief Electrician and Master Mechanic, to supplement my address by giving you a sketch showing some improvements which we have in mind for this device. Sketch "B" shows the use of a steam flow meter and a watt hour meter connected to the signal part of the circuit which will sound an alarm when the air current changes due to fall of rock, coal or short circuit of air and can be adjusted to most any degree of sensitiveness. The reason we do not want to stop the fan when this occurs is that in most cases due to using the various splits for different sections it will leave fan producing air to those sections not affected.

We believe a recording watt meter or steam flow meter would show the management that many interesting and unlooked for



SKETCH "C"

things occur in the mine which directly effect the ventilating system.

We have also shown how thermo couples may be placed in all bearings and motor windings which when trouble arises will sooner or later stop the fan.

We have considered the inclining of one leg of the "U" tube to get longer travel within the tube and the possibility of using a liquid which will make the contact without the use of a float.

By restricting the passage between the two legs of the "U" tube a definite time can be made to elapse before the signal operates if it is so desired.

Mr. Ralph Miller has developed a substitute for the "U" tube using an expanding and contracting diaphragm which is connected to the air way. The resulting motion through a lever makes and breaks the circuit similar to the float in "U" tube. See Sketch "C."

I might add that the above signal and its many improvements have been made with the help of many of the employees of the Fuel Department of the Colorado Fuel and Iron Company.

State Inspector of Colorado Mines Has Tested and Approved Atlas Wood Preservative and Disinfectant

It serves the dual purpose of preserving and fireproofing. It is so cheap that few mines can afford to be without a constant supply. It only costs from 15 to 20 cents per square foot if properly applied to lumber before construction.

All woodwork in and around the mines should be treated with Atlas Wood Preservative and Disinfectant. Application may be made by immersion or by painting or spraying.

Do you want our interesting pamphlets on this remarkable preservative? We will give you prices and full information. Sign your name on the margin of this advertisement and mail today.

Manufactured by Chipman Chemical Engineering Co.

Distributed by

THE DENVER FIRE CLAY COMPANY

DENVER,



COLORADO

Salt Lake City

El Paso

New York City

TABLE No. 6

PRODUCTION AND DISTRIBUTION OF COAL FROM ALL THE MINES
IN THE STATE OF COLORADO FOR THE YEAR ENDING
DECEMBER 31, 1924

Total Production Distributed	Loaded at Mines for Shipment	Sold to Local Trade and Used by Employees	Used at Mines for Steam and Heat	Coal Made Into Coke	Coke Made
10,501,088	8,470,674	560,397	209,808	1,260,209	738,345

TABLE No. 5

Table No. 5 omitted. Applies to metal mining.

COALS *of* QUALITY

Lignite—

Puritan and Shamrock	}	Weld County District
Monarch—Louisville District		

Bituminous—

Thor—Trinidad District
Royal—Walsenburg District

"A coal mine with a capacity of 1,000 tons per day has a value to a railroad equivalent to a town with a population of 30,000 people."

NATIONAL FUEL COMPANY

PRODUCERS AND SHIPPERS

511-520 Colorado Bldg.

DENVER, COLO.

DIRECTORY OF COAL MINES IN THE STATE OF COLORADO FOR THE YEAR ENDING DECEMBER 31, 1936

Name of Company or Operator	Name of Mine	County	Name of Manager or General Superintendent	Post Office of Company	Name of Mine Superintendent	Post Office of Mine	Railroad to Mine	Kind of Opening			Stock Tunnel		Average Thickness of Seam	
								Height of Shaft	Length of Shaft	Pitch	Length of Tunnel	Pitch	Feet	In.
F. L. Cox	Cox	Archuleta	.....	Payson Springs	T. L. Cox	Payson Springs	None	100	11'	.....	.....	.....	.....	.....
Chas. McElreath	McElreath	Archuleta	.....	Payson Springs	Dick	Payson Springs	None	.....	.....	.....	.....	.....	.....	.....
W. T. Nomanan	Nomanan	Archuleta	.....	Payson Springs	W. J. Nomanan	Payson Springs	None	.....	.....	.....	.....	.....	.....	.....
Rocky Mountain Fuel Co.	Rocky Mountain	Boulder	J. P. Peabody	Denver	David A. Kerr	Boulder	None	265	.....	.....	150	.....	2 1/4	4
Valley Coal Mining Co.	Valley	Boulder	H. Temblin	Lafayette	.....	Lafayette	C. H. & Q.	150	.....	.....	.....	.....	4 1/2	8
Standard Coal Mine Inc.	Standard	Boulder	Kenneth O. Wood	Lafayette	J. W. Trumbull	Lafayette	C. H. & Q.	320	.....	.....	.....	.....	6	6
National Fuel Co.	National	Boulder	T. E. Jenkins	Denver	Ray Williams	Broomfield	C. H. & Q.	315	.....	.....	.....	.....	6	6
Black Allan	Black Allan	Boulder	Frank V. Vase, Jr.	Louisville	L. G. Wilson	Louisville	C. H. & Q.	346	.....	.....	.....	.....	6	6
Black Diamond Coal Co.	Black Diamond No. 2	Boulder	David Allan	Lafayette	Thos. P. Hillton	Lafayette	None	No Report Submitted	.....	.....	.....	.....	6	6
Pluto Coal M. Co.	Pluto No. 2	Boulder	Frank E. Hodgson	Superior	Frank E. Hodgson	Superior	None	1,530	5 to 10%	.....	.....	.....	4	6
Domestic Coal Co.	Domestic	Boulder	Geo. C. Watson	Superior	John G. Nelson	Boulder	None	1,400	15%	.....	.....	.....	4	6
Liberado Coal Co.	Liberado	Boulder	Henry Richards	Gorham	Henry Richards	Gorham	None	1,250	10%	.....	.....	.....	4	6
Rich View Coal Co.	Rich View	Boulder	James Warrle	Gorham	James Warrle	Gorham	None	800	7'	.....	.....	.....	6	2
Box Coal Co.	Box	Boulder	C. C. Daniels	Gorham	Mike Dowd	Gorham	None	No Report Submitted	.....	.....	.....	.....	6	2
N. M. Bushoff	Lewis No. 2	Boulder	.....	Gorham	N. M. Bushoff	Gorham	None	1,600	8%	.....	.....	.....	4	6
Kozz Coal Mining Co.	Preside	Boulder	J. W. Thomas	Louisville	J. W. Thomas	Louisville	None	342	42%	.....	.....	.....	3 1/2	4
Ross Coal Co.	Ross	Boulder	.....	Gorham	.....	Gorham	None	.....	.....	.....	100	.....	4	6
John Matia	New Red Ash	Boulder	.....	Gorham	John Matia	Gorham	None	.....	.....	.....	.....	.....	4	6
Heard Coal Co.	Heard	Boulder	.....	Louisville	Chas. Whitford	Louisville	None	230	.....	.....	.....	.....	6 1/2	8
Cracker Jack Coal Co.	Cracker Jack	Boulder	.....	Boulder	J. A. Williams	Boulder	None	100	.....	27%	.....	.....	4	6
Paramount Coal Co.	Paramount	Boulder	.....	Lafayette	Joseph Hill	Lafayette	None	200	.....	15%	.....	.....	4 1/2	6
Tri-State Coal Assn.	Line Cliff	Boulder	Hugo M. Honlund	Boulder	Hugo M. Honlund	Boulder	None	1,000	.....	74%	.....	.....	4	6
Pittsburgh Coal Co.	Red Ash No. 1	Boulder	.....	Boulder	D. H. Davila	Gorham	None	500	6'	.....	.....	.....	4	9
Northern Coal Co.	Tripple	Boulder	.....	Boulder	Frank Rickard	Boulder	None	.....	.....	.....	.....	.....	4	11
Denver Valley Fuel Co.	Denver Valley	Boulder	P. M. Peilner	Denver	Frank Rickard	Boulder	None	270	.....	.....	.....	.....	4	11
Granite Coal & Coke Co.	Granite	Boulder	John B. Bowle	Boulder	A. H. Bowle	Boulder	D. H. & G. W.	.....	.....	.....	.....	.....	4	11
Green Valley Coal Co.	Green Valley	Boulder	.....	Colorado	Q. T. Brooks	Colorado	None	1,700	.....	6%	.....	.....	13	5
Red Canon Coal Co.	Red Canon	Boulder	.....	Colorado	Edo J. Patton	Colorado	None	297	26'	.....	.....	.....	13	5
Paonia Farmers Coal Co.	Paonia	Delta	.....	Paonia	Guy Lewis	Paonia	None	1,100	.....	.....	.....	.....	4	6
Independent Coal Co.	Independent	Delta	.....	Colorado	H. T. Clipp	Colorado	None	1,200	.....	3%	.....	.....	7	3
States Hill Coal Co.	States Hill Mountain	Delta	.....	Colorado	C. E. Hall	Colorado	None	900	.....	10%	100	25%	7	6
Winton Coal Co.	Winton	Delta	.....	Colorado	C. A. Austin	Austin	None	400	.....	.....	.....	.....	12	6
Western Star Coal Co.	Western Star	Delta	.....	Colorado	C. W. Rinehart	Colorado	None	400	.....	.....	.....	.....	12	6
Black Diamond Coal Co.	Black Diamond	Delta	.....	Colorado	Wm. Carsten	Colorado	None	.....	.....	.....	.....	.....	5	10
Bennett Coal Co.	Bennett	Delta	.....	Colorado	.....	Colorado	None	.....	.....	.....	.....	.....	.....	.....
Barker Coal Co.	Barker	Delta	.....	Colorado	.....	Colorado	None	.....	.....	.....	.....	.....	.....	.....
Heaver Valley Coal Co.	Heaver Valley	Delta	.....	Colorado	.....	Colorado	None	.....	.....	.....	.....	.....	.....	.....
Henry Battina	Fondis	Delta	.....	Colorado	.....	Colorado	None	.....	.....	.....	.....	.....	.....	.....
Guy Jordan	Jordan	Delta	.....	Colorado	.....	Colorado	None	.....	.....	.....	.....	.....	.....	.....
Harry L. Bly	Valley	Delta	.....	Colorado	.....	Colorado	None	.....	.....	.....	.....	.....	.....	.....
Pike Peak Fuel Co.	Pike Peak	Delta	W. D. Wade	Colorado Springs	Harry E. Hay	Colorado Springs	None	.....	.....	.....	.....	.....	.....	.....
Colorado Springs Coal Co.	City Coal Mines	El Paso	Geo. T. Krause	Colorado Springs	Walter Colburn	Colorado Springs	D. H. & G. W.	114	2,600	.....	.....	.....	6 to 10	.....
Thomas Mining Co.	Jimmy Camp	El Paso	H. J. Gehin	Colorado Springs	Fred Seyek	Colorado Springs	None	1,775	15%	.....	50	.....	4 to 6	.....
Corley Coal Co.	Corley No. 1	El Paso	W. D. Corley	Colorado Springs	Myron W. Williams	Colorado Springs	None	1,700	6'	.....	.....	.....	4 to 4	.....
Altitude Coal Co.	Altitude	El Paso	Thos. W. Howells	Colorado Springs	John Streman	Colorado Springs	None	2,000	.....	.....	.....	.....	6	6
John Streman	New Keystone	El Paso	.....	Colorado Springs	John Streman	Colorado Springs	None	200	.....	.....	.....	.....	6	6
Busby Coal Co.	Busby	El Paso	.....	Colorado Springs	Frank Ansee	Colorado Springs	None	650	.....	.....	.....	.....	4 to 14	.....
Barville Coal Co.	Barville	El Paso	.....	Colorado Springs	James Ralston	Colorado Springs	None	125	.....	31%	.....	.....	10	.....
Victor-American Fuel Co.	Chandler	Fremont	Wm. E. Schreiner	Denver	A. H. Sredston	Chandler	D. & R. G. W.	463	3,000	5'	.....	.....	3	6
Victor Fuel & Iron Corp.	Victor No. 1	Fremont	.....	Denver	.....	Denver	A. H. & S. F.	.....	.....	.....	.....	.....	.....	.....
Gulliano & Corbin	Gulliano	Fremont	J. G. Gulliano	Florence	J. G. Gulliano	Florence	None	6,000	.....	15%	.....	.....	6	6
Canon Monarch Coal Co.	Canon Monarch	Fremont	.....	Florence	Wm. H. Lloyd	Florence	None	1,500	.....	.....	200	.....	5 to 10	.....
Tony Santarelli	Double Dick	Fremont	.....	Florence	Tony Santarelli	Florence	None	2,300	.....	6%	.....	.....	6	6
Calidrola Coal Co.	Calidrola	Fremont	Chas. J. Calidrola	Florence	Stephan Berardi	Florence	None	2,000	.....	.....	.....	.....	6	6
Canon Black Diamond Coal Co.	Canon Black Diamond	Fremont	Louis Yellco	Florence	Louis Yellco	Florence	A. T. & S. F.	1,100	.....	.....	.....	.....	8 1/2	7
Hoyal George Coal Co.	Hoyal George	Fremont	Stanley Z. Pavinsky	Canon City	Wm. McShane	Canon City	D. & H. G. W.	360	.....	.....	47	.....	5	10
Griffiths Coal Co.	Griffiths	Fremont	W. R. Griffiths	Canon City	.....	Canon City	None	1,500	.....	.....	400	.....	3	8
American Independent Coal Co.	American Independent	Fremont	D. L. Hansen	Florence	D. L. Hansen	Florence	None	1,350	18'	.....	720	.....	3	8
Bluff Springs Leasing Co.	Bluff Springs	Fremont	D. L. Hansen	Florence	D. L. Hansen	Florence	A. T. & S. F.	125	.....	4%	325	4%	3	6
Bluff View Coal Co.	Bluff View	Fremont	Jas. L. Nowell	Florence	John E. Nowell	Florence	None	720	.....	15%	.....	.....	3	6
Nushall Coal Co.	Nushall	Fremont	.....	Coal Creek	.....	Coal Creek	None	1,600	.....	.....	200	.....	4	2
Nushall Coal Co.	Nushall	Fremont	.....	Coal Creek	.....	Coal Creek	None	800	.....	12%	400	.....	6	6
Brookside Coal M. Co.	Brookside	Fremont	Frank Orzechlo	Florence	Frank Orzechlo	Florence	None	1,500	.....	20%	.....	.....	3	.....
Pawn Hollow Coal Co.	Pawn Hollow	Fremont	Florian Adamie	Canon City	Florian Adamie	Canon City	None	700	.....	.....	.....	.....	2 1/2	3
Perion Coal Co.	Perion	Fremont	.....	Florence	James B. Bald	Florence	None	800	.....	.....	30	.....	2	6
Bald Coal Co.	Bald	Fremont	.....	Canon City	.....	Canon City	None	800	.....	.....	100	.....	2	10
Grand Prize Coal Co.	Grand Prize	Fremont	.....	Canon City	.....	Canon City	None	800	.....	.....	.....	.....	2	10
Canon Zenith Coal Co.	Canon Zenith	Fremont	.....	Canon City	Joseph Z. Duen	Canon City	None	900	.....	3%	.....	.....	1	8
Florence Coal Co.	Florence	Fremont	.....	Florence	.....	Florence	None	1,100	.....	19%	.....	.....	4	6
Canon Pracock Coal Co.	Canon Pracock	Fremont	B. O. Halstead	Florence	P. W. Ranson	Florence	None	125	.....	.....	.....	.....	3	.....
Canon Liberty Coal Co.	Canon Liberty	Fremont	John Lipka	Canon City	Anton Strahner	Canon City	None	100	.....	.....	200	.....	3	.....
Little Johnny Coal Co.	Little Johnny	Fremont	.....	Canon City	.....	Canon City	None	350	.....	.....	.....	.....	3	.....
Canon Ideal Coal Co.	Canon Ideal	Fremont	Louis Del Sandro	Coal Creek	Louis Del Sandro	Coal Creek	None	1,000	.....	3%	.....	.....	4	.....
Canon Arrow Coal Co.	Canon Arrow	Fremont	.....	Florence	.....	Florence	None	.....	.....	.....	.....	.....	4	.....
Sam Peiry	Sam Peiry	Fremont	.....	Florence	.....	Florence	None	700	.....	3%	.....	.....	3	6
Manley Coal M. Co.	Manley	Fremont	.....	Florence	Wm. Manley, Sr.	Canon City	None	92	500	15%	.....	.....	4	6
Tony Scull	Tony Scull	Fremont	.....	Florence	.....	Florence	None	.....	.....	.....	.....	.....	4	6
Canon Black Hawk Coal Co.	Canon Black Hawk	Fremont	Alex Bellman	Canon City	Alex Bellman	Canon City	None	Not Stated	700	12 1/2%	.....	.....	1	6
Canon Imperial Coal Co.	Canon Imperial	Fremont	Frank Santarelli	Florence	Frank Santarelli	Florence	None	800	.....	.....	200	6%	3	6
South Chandler Coal Co.	South Chandler No. 1	Fremont	J. H. Connell	Canon City	A. J. Hale	Canon City	None	800	.....	.....	.....	.....	3	.....
Moorehead Coal Co.	Moorehead	Fremont	Monroe Moschell	Canon City	Monroe Moschell	Canon City	None	800	.....	.....	.....	.....	3	.....
Willie No. 2	Willie No. 2	Fremont	Joe James	Florence	Joe James	Florence	None	150	.....	.....	.....	.....	3	6
Eagle Coal Co.	Eagle	Fremont	Thos. Walker	Florence	.....	Florence	None	300	.....	20%	.....	.....	30	.....
Evans Coal Co.	Evans	Fremont	Richard Evans	Coal Creek	Richard Evans	Coal Creek	A. T. & S. F.	1,500	71'	.....	.....	.....	3	4
Canon King Coal Co.	Canon King	Fremont	Virgil Blanchard	Canon City	Virgil Blanchard	Canon City	None	100	.....	20%	.....	.....	3	6
Canon Creek Coal Co.	Canon Creek	Fremont	L. W. Granger	Canon City	L. W. Granger	Canon City	None	425	8'	.....	.....	.....	3	10
Canon Tiger Coal Co.	Canon Tiger	Fremont	Ira Cordray & John Holl	Florence	Ira Cordray	Florence	None	500	.....	2%	.....	.....	4	4
Canon Blue Ribbon Coal Co.	Canon Blue Ribbon	Fremont	Robt. Donaldson	Florence	Robt. Donaldson	Florence	None	300	.....	.....	.....	.....	2	18
Pine Gulch Coal Co.	Pine Gulch	Fremont	Herman West	Florence	Herman West	Florence	None	400	.....	7%	.....	.....	5	6
W. H. McDonald	W. H. McDonald	Fremont	Paul Carolla	Florence	Paul Carolla	Florence	None	300	2,325	5.8%	100	.....	7	.....
Barber Coal Company	Barber	Fremont	Homor D. Ford	Watson, Utah	Jas. B. Bennett	Carbonara	Illutah	.....	.....	.....	.....	.....	.....	.....
W. H. McDonald	New Castle	Garfield	W. E. Coles	Glenwood Springs	W. E. Coles	New Castle	None	400	51'	.....	.....	.....	15	.....
South Canon Coal Co.	South Canon	Garfield	Jas. E. Ford	Glenwood Springs	Andy Zemlock	Glenwood Springs	D. & R. G. W.	400	45'	.....	.....	.....	5	.....
Henry Ziesenlas	Ziesenlas	Garfield	Henry Ziesenlas	Hill	Henry Ziesenlas	Hill	None	72'	.....	.....	236	.....	5	.....
Llewellyn Coal Co.	Llewellyn	Garfield	Rex Llewellyn	Silt	Rex Llewellyn	Silt	None	350	56'	.....	.....	.....	3	4
James Le Dunne	Harvey Gap	Garfield	.....	Silt	James Le Dunne	Silt	None	.....	.....	.....	.....	.....	3	4
Frank De Boy	Ohkrav	Garfield	David Davies	Glenwood Springs	Frank De Boy	Glenwood Springs	None	.....	.....	.....	.....	.....	3	6
Diamond Fuel Co.	Diamond	Garfield	Chas. Hauman	Hill	David Davies	Hill	None	500	50'	.....	800	.....	3	6
Hauman Coal Co.	Hauman	Garfield	.....	Hill	.....	Hill	None	.....	.....	.....	3,000	.....	4	.....
Estes Bros. Coal Co.	Estes	Garfield	.....	Hill	.....	Hill	None	.....	.....	.....	66	.....	14	.....
Dale Skerla	Monarch	Garfield	.....	Hill	.....	Hill	None	75	18'	4%	.....	.....	5	8
Stove Canon Coal Co.	Stove Canon	Garfield	Clyde L. Parls	Fratta	Clyde L. Parls	Fratta	None	1,000	.....	7%	.....	.....	6	.....
Ingles-Hans-Ingle Coal Co.	Ingles-Hans-Ingle	Garfield	.....	Hill	.....	Hill	None	.....	.....	.....	.....	.....	.....	.....
Calumet Fuel Co.	Calumet	Garfield	Hilph W. Ingle	Glenwood Springs	Hilph W. Ingle	Glenwood Springs	None	150	.....	18%	.....	.....	6 to 8	.....
Colorado Fuel & Iron Corp.	Colorado Fuel & Iron Corp.	Gunnison	A. C. Walker	Sal Lake City, Utah	A. C. Walker	Sal Lake City, Utah	D. & H. G. W.	2,800	.....	.....	.....	.....	5 to 25	.....
Oliver Coal Co.	Oliver	Gunnison	E. M. Oliver	Paonia	Donald C. Oliver	Somerset	D. & R. G. W.	3,400	.....	6%	150	25%	7 to 8	.....

Arrowhead Coal Co Kerr Coal Co Palladino Clean Heat Coal Co Clearhart Coal Co	Stonewall Valley Carmoo Pallade Mt. Garfield	Los Animas Mesa Mesa Mesa	Geo. J. Martin W. M. Kerr Fred Rowley H. Gearhart	Western Carmoo Pallade Pallade	Geo. J. Martin W. M. Kerr Joe Martin H. Gearhart	Western Carmoo Pallade Pallade	D & R G. W. None None None	2,300 1,000 None None	7% 8% None None	700 140 None None		2 3 3 3	6 8 2 2
Clarke Coal Co River View Coal Co Garfield Coal Co Hidden Treasure Coal Co Midwest Ind Arrow Coal Co	Hidden View Garfield Hidden Treasure Midwest	Mesa Mesa Mesa Mesa	H. M. Clarke Walter Scott Wm. Hughes	Pallade Carmoo Pallade Pallade	H. M. Clarke Louis Supan Walter Scott Martin Kovas Wm. Hughes	Pallade Carmoo Pallade Pallade	None None None None None	1,500 200 700 None	20% 17% None None	None None None None	3 to 6 2 2 2	6 2 2 2	
Wm. McGlinchey Williams Coal Co John McDowell Farmers Mutual Coal Co Vincent Frodham	McGlinchey Williams Riverside Farmers No. 1 Hunter	Mesa Mesa Mesa Mesa Mesa	Ernest Hicks (Lessee) Morgan Williams John McDowell Joe Cardano Vincent Frodham	Grand Junction Grand Junction Pallade Grand Junction Pallade	Ernest Hicks (Lessee) Morgan Williams John McDowell Joe Cardano Vincent Frodham	Grand Junction Grand Junction Pallade Grand Junction Pallade	None None None None None	300 400 None None None	5% None None None None	1,800 800 None None None	165 200 None None None	4 4 4 4 4	6 6 6 6 6
Thomas Coal M. Co. Martin Coal Co Mesa Co. Quality Coal Co M. M. Hasty J. W. Mundell & Son	Thomas Blue Flame Nearing Stokes Mundell	Mesa Mesa Mesa Mesa Mesa	Richard T. Martin George McMillin M. M. Hasty J. W. Mundell	Grand Junction Pallade Pallade Pallade Grand Junction	Richard T. Martin George McMillin M. M. Hasty J. W. Mundell	Pallade Pallade Pallade Pallade Grand Junction	None None None None None	350 450 600 1,500 240	17% 3% 5% 5% 10%	200 None None None 325	5 to 7 6 6 6 6	7 9 10 6 6	
Clarence O. Allen Mike Martinelli Co-operative Coal Ass'n Dale Skelton Joseph Rodja	Jaytek Martinelli Hunninger Munger Parrack	Mesa Mesa Mesa Mesa Mesa	Clarence O. Allen Mike Martinelli Howard Boyd Dale Skelton Joseph Rodja	Grand Junction Pallade Pallade Pallade Grand Junction	Clarence O. Allen Mike Martinelli Howard Boyd Dale Skelton Joseph Rodja	Grand Junction Pallade Pallade Pallade Grand Junction	None None None None None	300 126 None None None	15% 4% None None None	No Report Submitted No Report Submitted None None None	4 2 2 2 2	6 6 6 6 6	
Anchor Coal Co Coal Gulch Coal Co Karnath Creek Farmers Mine Ass'n Kora Coal Co C. G. Phelan	Anchor Coal Gulch Karnath Creek Kora Shaver	Mesa Mesa Mesa Mesa Mesa	Frank Bradbury S. A. Johnson Joe L. Jones C. G. Phelan	Pallade Lama Lama Whitewater Craig Axial	Frank Bradbury S. A. Johnson Joe L. Jones C. G. Phelan	Pallade Lama Lama Whitewater Craig Axial	None None None None None None	200 275 600 100 None	2% None None 9 to 11% 6%	None None None 90 None	4 5 10 23 None	6 6 6 6 6	
Lee H. Pattison Community Coal Co Winona Coal Co Guy Bond John Habb, Jr	Pattison Community Winona Walker Haker	Moffat Moffat Moffat Moffat Moffat	Fred Veat Clifford A. Bond J. Schuele Guy Bond John Habb, Jr	Axial Craig Craig Craig Craig	Fred Veat Clifford A. Bond J. Schuele Guy Bond John Habb, Jr	Axial Craig Craig Craig Craig	None None None None None	300 200 None None None	1% 3% None None None	None None None None None	25 14 6 6 6	3 4 4 4 4	
12 B. Whitlock Domitila Garbilla Manos Coal Co A. F. Hopper Mesa Verde Coal Co	Castor Gulch Domitila Manos Cortez Mesa Verde	Moffat Montezuma Montezuma Montezuma Montezuma	E. E. Whitlock Domitila Garbilla Roy Freeman A. F. Hopper V. H. Hamilton	Craig Craig Manos Cortez Cortez	E. E. Whitlock Domitila Garbilla Roy Freeman A. F. Hopper V. H. Hamilton	Craig Craig Manos Cortez Cortez	None None None None None	100 None None None None	6% None None None None	600 None None None None	10 3 3 3 3	6 6 6 6 6	
Wilden Coal Co Kline & Mitchell Independence Coal Co Rice Coal Co S. J. Hoadley	Wilden Liberty Bell Independence Rice Kennedy	Montezuma Montrose Montrose Montrose Montrose	H. A. Answorth Lyle Mitchell Wm. Oberding S. J. Hoadley	Manos Nucla Nucla Hidvale Hidvale	H. A. Answorth Lyle Mitchell Wm. Oberding S. J. Hoadley	Manos Nucla Nucla Hidvale Hidvale	None None None None None	700 125 None None None	1% 2% None None None	None None None None None	6 6 6 6 6	6 6 6 6 6	
Placita Coal Mining Co C. B. Pollard G. G. Hart & Son H. C. Reiman F. W. Pelman	Placita New Pollard Pollard H. C. Reiman Johnny Boy	Pitkin Hlo Blanco Hlo Blanco Hlo Blanco Hlo Blanco	J. E. McCann C. B. Pollard G. G. Hart H. C. Reiman Fred W. Pelman	Carbondale Meeker Meeker Meeker Meeker	J. E. McCann C. B. Pollard G. G. Hart H. C. Reiman Fred W. Pelman	Carbondale Meeker Meeker Meeker Meeker	None None None None None	760 413 None None None	12% 17% None None None	None None None None None	4 7 11 11 11	6 6 6 6 6	
Thomas D. Foreman Milo Coats Rosa M. Rector Ivor Adair Pete Goxter	Nine Mile Coats Rector Rlo Blanco Twelve Mile	Hlo Blanco Hlo Blanco Hlo Blanco Hlo Blanco Hlo Blanco	Thomas D. Foreman Milo Coats Rosa M. Rector Ivor Adair Pete Goxter	Meeker Meeker Meeker Meeker Meeker	Thomas D. Foreman Milo Coats Rosa M. Rector Ivor Adair Pete Goxter	Meeker Meeker Meeker Meeker Meeker	None None None None None	100 None None None None	None None None None None	None None None None None	24 10 7 9 9	6 6 6 6 6	
Moffat Coal Co Hayden Coal Co Colorado & Utah Coal Co Victor-American Fuel Co. Victor-American Fuel Co	Moffat No. 1 & No. 2 Hayden No. 1 Harris Pinnacle Wadco	Routt Routt Routt Routt Routt	H. W. Snodgrass Homer H. Hayden Meritt Hutton Wm. E. Schlessinger Wm. E. Schlessinger	Denver Denver Denver Denver Denver	H. W. Snodgrass Homer H. Hayden Meritt Hutton Wm. E. Schlessinger Wm. E. Schlessinger	Oak Creek Oak Creek Oak Creek Oak Creek Oak Creek	D & S L. D & S L. D & S L. D & S L. D & S L.	350 250 5,000 4,500 None	16% 5% None None None	2,000 2,000 2,000 500 None	8 to 12 6 9 12 8	6 6 6 6 6	
Bear River Coal Co Keystone Coal Co McNell Coal Corp Frank Coryell R. Gwynn	Keystone McNell Butcher Knife Seven Points	Routt Routt Routt Routt Routt	John Connell John Connell Floyd H. Pool	Denver Denver Phippsburg	John Connell John Connell Floyd H. Pool	Bear River Bear River Phippsburg	D & S L. D & S L. D & S L.	2,000 5,000 2,000 5,000 500	20% 10% None None None	None None None None None	8 to 12 6 8 6 10	6 6 6 6 6	
Babson Coal Co Hayden Valley Mutual Coal Co Black Cat Coal Co John Hatching George T. Hottes	Babson Hayden Valley Black Cat Hatching Argo Gulch	Routt Routt Routt Routt Routt	John S. Mills Alex Walker Winford H. Jones John Hatching Geo. T. Hottes	Hayden Hayden Bear River Bear River Oak Creek	John S. Mills Alex Walker Winford H. Jones John Hatching Geo. T. Hottes	Hayden Hayden Bear River Bear River Oak Creek	None None None None None	650 200 600 None 1,300	10% 7% 5% None 30%	None None 500 None None	10 6 6 5 10	6 6 6 6 6	
Paul & Mchelelli John Pollo, Jr Chris Paeck J. E. Webber George T. Hottes	Premium Morgan Edna Webber Hottes	Routt Routt Routt Routt Routt	John Pollo, Jr Chris Paeck J. E. Webber George T. Hottes	Hayden Hayden Hayden Hayden Hayden	John Pollo, Jr Chris Paeck J. E. Webber George T. Hottes	Hayden Hayden Hayden Hayden Hayden	None None None None None	20 600 None None None	13% 10% None None None	1,000 None None None None	5 8 8 8 8	6 6 6 6 6	
Geo. Steel Coal Co Kasper Webberkitch John F. Johnson Heck Coal Co Keeck Coal Co	Apex Fish Creek Johnson Heck San Miguel	Houtt Houtt Houtt Houtt Houtt	Geo. Steel Kasper Webberkitch John F. Johnson Fred Heck W. H. Kerk	Oak Creek Hayden Dunkley Milner Norwood	Geo. Steel Kasper Webberkitch John F. Johnson Fred Heck W. H. Kerk	Oak Creek Hayden Dunkley Milner Norwood	None None None None None	100 150 400 None None	7% 10% None None None	None 50 None None None	3 11 9 2 2	6 6 6 6 6	
W. H. Knowlton Melvin Rogers Rocky Mountain Fuel Co Rocky Mountain Fuel Co Boulder Valley Coal Co	O. K. Gray Columbine Grant Boulder Valley	San Miguel San Miguel Weld Weld Weld	W. H. Knowlton Melvin Rogers Ed Hodgson Thos. Gibby Wm. Andrew	Norwood Norwood Denver Denver Denver	W. H. Knowlton Melvin Rogers Ed Hodgson Thos. Gibby Wm. Andrew	Norwood Norwood Denver Denver Denver	None None None None None	300 165 350 None None	None None None None None	None None None None None	3 6 10 10 10	6 6 6 6 6	
National Fuel Co. Imperial Coal Co Clayton Coal Co Clayton Coal Co Wm. E. Russell Coal Co	Puritan Imperial Clayton Clayton Russell	Weld Weld Weld Weld Weld	Boy Williams Elmer Davis John Slide John Slide Wm. E. Russell	Denver Denver Denver Denver Denver	Boy Williams Elmer Davis John Slide John Slide Wm. E. Russell	Denver Denver Denver Denver Denver	D. P. D. P. D. P. D. P. D. P.	110 300 360 160 228	None None None None None	None None None None None	5 to 7 6 9 6 6	6 6 6 6 6	
Consolidated Coal & Coke Co McNell Coal Corp Shamrock Coal Co Broderick Mines Co La Salle Coal Co	Baum Sterling Shamrock Evans (Lilly) La Salle	Weld Weld Weld Weld Weld	Carson W. Smith Floyd R. Pool	Denver Denver Erie Frederick Greeley	Carson W. Smith Floyd R. Pool	Denver Denver Erie Frederick Greeley	U. P. U. P. U. P. U. P. U. P.	205 358 100 160 None	None None None None None	None None None None None	7 9 7 6 3	6 6 6 6 6	
Graham & McPadden Hohlander Coal Co Weatherby Coal Co Ruddy Coal Co Connet Coal Co	Garden Hohlander Weatherby Ruddy Connet	Weld Weld Weld Weld Weld	Thomas H. Graham Geo. W. Baird	Longmont La Salle Pt. Lupton La Salle Eaton	James A. McPadden Ben Hohlander H. P. Connet A. Lind Early Geo. Matthews	Longmont La Salle Pt. Lupton La Salle Eaton	None None None None None	115 120 210 110 140	None None None None None	None None None None None	7 7 4 3 4	6 6 6 6 6	
Galeton Coal Mines, Inc. Diamond Coal Co White Ash Coal Co Owl Coal Co + Frank Bellino	Galeton Diamond White Ash Owl Junonia	Weld Weld Weld Weld Archuleta	E. E. Phillips Anton Gehring Coy Finn F. W. Blighman Frank Bellino	Galeton La Salle La Salle Eaton Pagosa Junction	E. E. Phillips Anton Gehring Coy Finn F. W. Blighman Frank Bellino	Galeton La Salle La Salle Eaton Pagosa Junction	None None None None None	160 130 80 92 None	None None None None None	None None None None None	3 4 4 4 4	6 6 6 6 6	
+ Chas. McBroom + Louis Owen + A. H. Converse + A. H. Hines + M. M. & P. Co.	McBroom Owen Converse Peacock M. M. & P.	Archuleta Delta Delta Delta El Paso	Chas. McBroom Louis Owen A. H. Converse A. H. Hines Pete Nandorich	Dyke Laciar Pacola Austin Calhan	Chas. McBroom Louis Owen A. H. Converse A. H. Hines Pete Nandorich	Dyke Laciar Pacola Austin Calhan	None None None None None	500 100 None None None	None None None None None	None None None None None	12 6 7 14 5	6 6 6 6 6	
+ W. S. Smith + Willie Hana + Castle Rock Coal Co + House Coal M. Co + Redwood Mining Co	Smith Garfield View Castle Rock House Redwood	New Castle Rille Gunnison Waldenburg Waldenburg	W. S. Smith Willie Hana L. H. Towner John Hana T. F. Sweet	New Castle Rille Gunnison Waldenburg Waldenburg	W. S. Smith Willie Hana L. H. Towner John Hana T. F. Sweet	New Castle Rille Gunnison Waldenburg Waldenburg	None None None None None	600 700 None None None	None None None None None	None None None None None	3 4 4 4 4	6 6 6 6 6	
+ H. B. Linscott + Triangle Coal Co + Robert P. Chisard + Sunshine Coal Co + U. S. Vanadium Corp	Linscott Triangle Sunshine Sunshine Cravan	Huerfano La Plata Moffat Montrose Montrose	H. B. Linscott Robert P. Chisard A. H. Hines W. F. Murray	La Veta Durango Meeker Nucla Uravan	H. B. Linscott Robert P. Chisard A. H. Hines W. F. Murray	La Veta Durango Meeker Nucla Uravan	None None None None None	130 80 200 None None	48% 10% 2% None None	None None None None None	6 5 5 6 6	6 6 6 6 6	
+ Michael Babef + Worth L. Holder + Hurro Creek Coal M. Co. + Ella G. Blight + James & Trachta	Babef Pleasant Valley Hurro Creek Bright Diamond Douglas Creek	Montrose Montrose Ouray Ouray Hlo Blanco	Michael Babef Worth L. Holder Claude L. Johnson Ella G. Blight L. E. Jones	Montrose Montrose Montrose Montrose Hanging	Michael Babef Worth L. Holder Claude L. Johnson Ella G. Blight L. E. Jones	Montrose Montrose Montrose Montrose Hanging	None None None None None	114 None 200 100 None	13% None None None None	None None None None None	2 4 3 18 6	6 6 6 6 6	
White River Valley Coal Co C. F. Pollard Champion Coal M. Co Walter L. Jones John A. Johnson	McKee New Pollard Champion Blue Spruce Big Mack	Hlo Blanco Hlo Blanco Routt Routt Routt	C. L. Ellersien F. F. Pollard Henry E. Zarlingo Walter L. Jones John A. Johnson	Meeker Meeker Mt. Harris Oak Creek Oak Creek	C. L. Ellersien F. F. Pollard Henry E. Zarlingo Walter L. Jones John A. Johnson	Meeker Meeker Mt. Harris Oak Creek Oak Creek	None None None None None	250 None None None None	12% None None None None	None None None None None	5 5 5 5 5	6 6 6 6 6	
Elder Coal Co Horton Coal Co H. D. Jackson Benito Garcia	Elder Horton Brewster Garcia	San Miguel San Miguel Fremont Las Animas	Gene Elder P. R. Horton H. D. Jackson Benito Garcia	Norwood Norwood Brewster Boncarbo	Gene Elder P. R. Horton H. D. Jackson Benito Garcia	Norwood Norwood Brewster Boncarbo	None None None None	200 200 None None	None None None None	None None None None	2 3 2 1	6 6 4 4	

Remarks: + Represent mines which reported too late to be filed in their proper places

TABLE No. 7
NUMBER INJURED IN COAL MINES DURING THE CALENDAR YEAR ENDED DECEMBER 31, 1924

CAUSES	Permanent Total Disability	Permanent Partial Disability	Temporary Disability		Total Injuries
			Time Lost More Than 14 Days	Time Lost Less Than 14 Days	
Underground—					
1. Falls of roof (coal, rock, etc.)	2	10	263	191	466
2. Falls of face or pillar coal	1	5	94	85	185
3. Mine cars and locomotives	..	18	254	148	420
4. Gas explosions and burning gas	..	1	..	1	2
5. Coal-dust explosions (including gas and dust combined)
6. Explosives	5	1	6
7. Suffocation from mine gas	1	..	1
8. Electricity	6	3	9
9. Animals	30	28	58
10. Mining machines	..	5	69	47	121
11. Mine fires (burned, suffocated, etc.)	1	..	1
12. Other causes	..	8	199	252	459
In Shaft—					
13. Falling down shafts or slopes	1	..	1
14. Objects falling down shafts or slopes	2	2
15. Cages or skips	6	2	8
16. Other causes	2	2	4
Total number injured in mine	3	47	931	762	1,743
On Surface—					
17. Mine cars and mine locomotives	13	6	19
18. Electricity	1	1
19. Machinery	16	11	27
20. Boiler explosions or bursting steam pipes	3	..	3
21. Railway cars and locomotives	2	3	5
22. Other causes	29	24	53
Total number injured on the surface	63	45	108
GRAND TOTAL	3	47	994	807	1,851

A. PERMANENT TOTAL DISABILITY. Loss of both legs or arms, one leg and one arm, total loss of eyesight, paralysis or other condition permanently incapacitating workman from doing any work of a gainful occupation.

B. PERMANENT PARTIAL DISABILITY. Loss of one foot, leg, hand, eye, one or more fingers, one or more toes, and dislocation where ligaments are severed, or any other injury known in surgery to be permanent partial disability.

C. In this column include only accidents which cause a loss of time more than the balance of the day or shift upon which the accident occurred.

TABLE No. 8

COAL MINE FATALITIES IN THE STATE OF COLORADO, CLASSIFIED BY CAUSE AND OCCUPATION, FOR YEAR ENDED
DECEMBER 31, 1924.

CAUSES	UNDERGROUND AND SHAFT																Total Fatalities		
	Foreman	Assistant Foreman	Fire Bosses	Pick Miners	Machine Miners	Machine Runners and Scrapers	Shot Firers	Drivers and Runners	Motormen and Assistants	Doorboys and Helpers	Trackmen and Bratticemen	Timbermen and Rockmen	Pump and Pipemen	Electricians and Helpers	All Others	Total Underground		Surface Fatalities	
Underground—																			
1. Falls of roof (coal, rock, etc.).....	..	1	..	8	3	..	1	..	..	..	..	..	..	..	..	..	13	..	13
2. Falls of face or pillar coal.....	9	1	..	..	..	..	..	..	..	..	..	..	..	10	..	10
3. Mine cars and locomotives.....	8	..	..	..	2	..	..	..	..	..	..	1	..	11	..	11
4. Gas explosions and burning gas.....
5. Coal-dust explosions (including gas and dust combined).....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6. Explosives	1	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
7. Suffocation from mine gases.....	2	2	..	2
8. Electricity (shock or burns).....	1	..	..	..	..	1	..	..	..	..	..	..	..	2	..	2
9. Animals
10. Mining machines.....	1	..	..	..	..	..	..	..	..	1	..	1	..	1
11. Mine fires (burned, suffocated, etc.)	1	..	..	..	..	..	..	..	..
12. Other causes.....	1	1	..	1
Shaft—																			
13. Falling down shafts or slopes.....
14. Objects falling down shafts or slopes..
15. Cages or skips.....
16. Other causes
Total underground	1	1	27	5	1	1	2	1	..	1	..	..	..	1	..	41	..	41

Surface—												
17. Mine cars and mine locomotives.....	...	...	...	...	...	...	...	...	...	...	...	...
18. Electricity (shock or burns).....	...	...	...	...	...	...	...	...	...	...	...	...
19. Machinery .....	...	...	...	...	...	...	...	...	...	...	...	...
20. Boiler explosions or bursting steam pipes .....	...	...	...	...	...	...	...	...	...	...	...	...
21. Railway cars and locomotives.....	...	...	...	...	...	...	...	...	...	...	...	1
22. Other causes .....	...	...	...	...	...	...	...	...	...	...	...	2
Total	—	—	—	—	—	—	—	—	—	—	—	3
Grand total .....	...	1	1	1	5	29	1	1	1	...	41	3
Number employed in each occupation (a) .	184	65	172	486	3,620	4,782	486	152	859	270	69	329
												391
												11,971

(a) To be supplied from Table 10.

TABLE No. 10

COAL MINE EMPLOYEES CLASSIFIED BY OCCUPATION IN THE STATE
OF COLORADO DURING YEAR ENDED DECEMBER 31, 1924.

UNDERGROUND		Employed in and around the mines of Colorado
1. Foremen	184	
2. Assistant foremen	65	
3. Fire bosses	172	
4. Pick miners	4,782	
5. Machine miners	3,620	
6. Machine runners and scrapers.....	486	
7. Shot firers	152	
8. Drivers and runners.....	859	
9. Motormen and assistants.....	270	
10. Doorboys and helpers.....	69	
11. Trackmen and bratticemen.....	329	
12. Timbermen and rockmen.....	391	
13. Pumpmen and pipemen.....	105	
14. Electricians and helpers.....	96	
15. All others	391	
Total underground		11,971
SURFACE		
1. Superintendents	159	
2. Foremen	53	
3. Blacksmiths and carpenters.....	204	
4. Engineers and firemen.....	279	
5. Machinists and helpers.....	94	
6. Trackmen and helpers.....	34	
7. All others at mine.....	1,108	
8. Coke-oven employees	213	
9. Office employees	128	
Total surface		2,272
Total employees		14,243
Number of days men worked during year.....		181.5

Table No. 9, omitted, is covered by Table No. 8. Applies to Metal Mining.
Above poll taken in December, 1924.

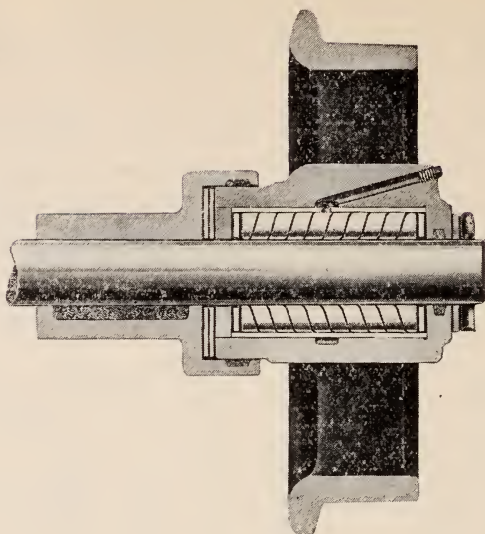
Company	20	1	20.0	20,794	4	5.0	5,199	50.0	200.0
Boulder Coal Mining Co.	125			186,969	22	5.7	8,499		176.0
Boulder Valley Coal Co.	2			1,067					
Bracken & Cozza	6			1,771					
Brewster Independent Coal Co.	8			2,431	1	8.0	2,431		176.0
Brown, Thos., Coal Co.									
Butcher Knife Coal Co.	5			1,293					
Caddell & Son	8			5,282					
Callente Coal Co.	186			107,340	14	13.3	7,667		75.3
Calumet Fuel Co.	529	1	529.0	495,936	35	15.1	14,170	1.9	66.2
Campbell, W. B.	4			802					
Canon District Coal Co.	18			6,688					
Canon Quality Coal Co.	318				1	6.0	318		166.7
Canon-Reliance Coal Co.	79	1	79.0	59,555	25	3.2	2,382	12.7	316.5
Canon United Coal Co.	3			1,738					
Cedar Hill Coal & Coke Co.	20			14,728	2	10.0	7,364		100.0
Champion Coal Mining Co.	6			1,981					
Chergo, Thomas	1			360					
Christensen Coal Co.	7			3,934	2	3.5	1,967		285.7
Clark, George	1			163					
Clayton Coal Co.	160			234,304	20	8.0	11,715		176.0
Collter, Andy	1			527					
Colorado Canon Coal Co.	9			849					
Colorado Fuel & Iron Co.	3,587	12	298.9	2,950,297	549	6.5	5,374	3.3	153.1
Colorado Springs Co.	66			55,139	13	5.1	4,241		197.0
Colorado & Utah Coal Co.	253	1	253.0	218,538	38	6.7	5,751	4.0	150.2
Consolidated Coal & Coke Co.	90			141,197	10	9.0	14,120		111.1
Converse, Frank	1			1,186					
Corley, W. D.	32			11,544	7	4.6	1,649		218.8
Cornwell, J. V.	5			809					
Cortez Coal Co.	5			1,840					
Cottonwood Coal Co.	2			761					
Cracker Jack Coal Co.	8			6,788	2	4.0	3,394		250.0
Crane & Robinson	2			2,203					
Crescent Coal Co.	2			186					
Crested Butte Anthracite Mining Co.	41			35,268	4	10.2	8,817		97.6
Crested Butte Coal Co.	39			42,011					
Crown Fuel Co.	59			34,753	3	13.0	14,004		76.9
Crystal River Coal Co.	4			1,134	6	9.8	5,792		101.7
Canville Coal Co.	5			2,831					

TABLE A—Continued

COMPANIES	Total Production	Number of Men Employed	Number of Fatal Accidents	Number of Men Employed per Fatal Accident	Number of Tons Produced per Fatal Accident	Number of Non- Fatal Accidents	No. of Men Em- ployed per Non- Fatal Accident	Number of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Davies Coal Co.....	1,105	2	..	..	..	..	..	..	..	..
Dennis & Malone.....	1,375	1	..	..	..	..	..	..	..	..
Dick Coal Co.....	85,464	65	..	..	..	10	6.5	8,546	..	153.8
Domenico & Sons.....	15,687	43	..	..	..	..	..	..	..	..
Donald Coal Co.....	1,988	3	..	..	..	..	..	..	..	..
Donnelly & Reynolds.....	1,972	3	..	..	..	..	..	..	..	..
Double Dick Coal Co.....	6,738	11	..	..	..	4	2.8	1,884	..	363.6
Drennan Coal Co.....	1,030	2	..	..	..	..	..	..	..	..
Drott, John H.....	405	1	..	..	..	..	..	..	..	..
Durango Coal Co.....	3,915	9	..	..	..	..	..	..	..	..
Electric Coal Co.....	468	1	..	..	..	..	..	..	..	..
Empire Coal Mining Co.....	83,304	110	1	110.0	83,304	8	14.3	10,413	9.1	72.7
Enrletta & Co.....	46	1	..	..	..	..	..	..	..	..
Estes, James F.....	2,050	6	..	..	..	..	..	..	..	..
Fairview Coal Co.....	465	2	..	..	..	..	..	..	..	..
Farmers-Mutual Coal Co.....	1,635	3	..	..	..	..	..	..	..	..
Florida Grange.....	177	2	..	..	..	..	..	..	..	..
Foreman, Thos. D.....	216	1	..	..	..	..	..	..	..	..
Freeman, J. R.....	933	2	..	..	..	1	2.0	933	..	500.0
French & Fielding.....	2,046	4	..	..	..	..	..	..	..	..
Fruth & Stone.....	9,601	30	1	30.0	9,601	..	..	..	33.3	..
Gadberry, R. V.....	1,453	3	..	..	..	..	..	..	..	..
Gearheart & Phillips.....	6,153	18	1	18.0	6,153	..	..	..	55.6	..
Geater, E. W., & Co.....	Developmt	Work	Only	..	..	3	..	..	..	..
Gilson Asphaltum Co.....	11,246	9	..	..	..	1	9.0	11,246	..	111.1
Golden Dawn Coal Co.....	1,762	2	..	..	..	..	..	..	..	..
Good Coal Co.....	497	2	..	..	..	..	..	..	..	..
Gordon Coal Co.....	66,397	98	..	..	..	7	14.0	9,485	..	71.5
Grand Junction Mining & Fuel Co.....	184,950	152	..	..	..	26	5.8	7,113	..	171.1

[illegible]

Riverside, Coal Co.	3,772	6			3	2.0	1,257	500.0
Rochio, Coal Co.	5,595	17						
Rocky Mountain Fuel Co.	826,345	860	1	860.0	177	4.9	4,669	205.8
Ross Coal Co.	34,797	68			4	17.0	8,099	58.8
Royal Fuel Co.	204,412	258			16	16.1	12,776	62.0
Royal Gorge Coal Co.	2,586	2						
Rugby Collieries Co.	662	31			1	31.0	662	32.3
Rush Coal Co.	486	57						
Russell, W. E., Coal Co.	62,600	57			12	4.8	5,217	210.5
Santa Fe Coal Co.	977	6						
Seven Points Coal Co.	928	1						
Shamrock Coal Co.	51,124	33						
Stidle, John	833	6						
Simpson, Joseph	3,000	3						
Smith & Long	949	2						
Solar Coal Co.	540	11						
Sootless Fuel Co.	742	1						
South Canon Mine Leasing Co.	4,726	8	1	8.0			125.0	
Spanish Peak Coal Co.	743	5						
Spencer, Geo. S.	496	1						
Stanley Mine Co.	37,842	45			1	45.0	37,842	22.2
States Coal Co.	2,315	2						
Stillwagon, J. W.	137	1						
Stokes, W. D.	4,302	7			3	2.3	1,434	428.6
Sulphur Coal Co.	400	1						
Sunnyside Coal Mining Co.	82,043	87			4	21.7	20,511	45.9
Sunshine Coal Co.	9,222	10			2	5.0	4,611	200.0
Temple Fuel Co.	134,413	184			22	8.3	6,109	119.5
Thomas Coal Co.	1,687	4						
Three Pines Coal Co.	46,052	80	1	80.0	7	11.4	6,575	87.0
Tipotsch, Frank	1,174	2						
Triangle Coal Co.	611	4						
Trinidad Coal Co.	2,531	4						
Union Coal & Coke Co.	44,655	74			5	14.8	8,931	67.5
United Colliers Co.	19,715	25			4	6.2	4,928	16.0
Vesta Mines, Inc.	21,619	43			2	21.1	10,809	46.5
Veta Coal Co.	2,332	18			1	18.0	2,332	55.5
Vezzetti & Moschetti	15,619	13			2	6.5	7,809	153.8
Wickers Coal Co.	5,472	18						

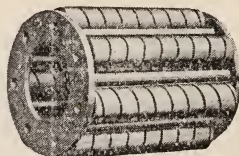


For Hard Service

No wheels will stand the gaff like those equipped with Hyatt heavy duty mine car bearings. A typical design of one of these wheels is shown above.

For detailed information regarding Hyatt bearings for mine cars write for bulletin No. 390. It contains the Hyatt equipped wheel designs of 27 manufacturers, a list of several hundred users, and information of interest and value concerning mine haulage.

This catalog also appears complete in pages 912 to 925 of the 1924 Keystone Mining Catalog, Coal Edition.



HYATT ROLLER BEARING COMPANY
NEWARK HUNTINGTON PITTSBURGH CHICAGO
WORCESTER PHILADELPHIA CHARLOTTE DETROIT
CLEVELAND MILWAUKEE SAN FRANCISCO

TABLE A—Continued

COMPANIES	Total Production	Number of Men Employed	Number of Fatal Accidents	Number of Men Employed per Fatal Accident	Number of Tons Produced per Fatal Accident	Number of Non- Fatal Accidents	No. of Men Em- ployed per Non- Fatal Accident	Number of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Victor-American Fuel Co.....	823,809	1,193	3	397.6	274,603	284	4.2	2,901	2.5	238.0
Vigil, Jose.....	519	3	.....	.....	.....	.....	.....	.....	.....	.....
Wade Coal Co.....	3,185	3	.....	.....	.....	.....	.....	.....	.....	.....
Walker Land & Cattle Co.....	185	2	.....	.....	.....	.....	.....	.....	.....	.....
Wellington Coal Co.....	1,590	12	.....	.....	.....	1	12.0	1,590	.....	83.3
White Ash Coal Co.....	1,490	4	.....	.....	.....	.....	.....	.....	.....	.....
Williams Fork L. & C. Co.....	200	2	.....	.....	.....	.....	.....	.....	.....	.....
Willie Coal Co.....	2,547	3	.....	.....	.....	.....	.....	.....	.....	.....
Wilton Coal Co.....	1,203	2	.....	.....	.....	.....	.....	.....	.....	.....
Winton Coal Co.....	703	2	.....	.....	.....	.....	.....	.....	.....	.....
Yampa Fuel Co.....	5,285	31	1	31.0	5,285	2	15.5	2,642	32.2	64.5
Ziesentius & Wilson.....	1,397	2	.....	.....	.....	.....	.....	.....	.....	.....
Totals of State of Colorado.....	10,501,088	12,703	44	288.5	238,661	1,851	6.8	5,673	3.48	145.71

TABLE B

SHOWING BY COUNTIES, MINES OPERATED, NAME OF OPERATOR AND ADDRESS OF MINE, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1924, AND CAPACITY OF MINE PER DAY IN TONS

ARCHULETA COUNTY

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
Crane	Crane & Robinson	Bayfield	Sub-bituminous	175.3	21.2	2,203	20
Pagosa	Nossaman & Fowler	Pagosa Springs	Sub-bituminous	11		216	.....
Total Number of	Mines Operated: 2			186.3	4	2,419	.....

BOULDER COUNTY

Industrial	Rocky Mountain Fuel Co.	Superior	Sub-bituminous	169.2	128	118,515	800
Simpson	Rocky Mountain Fuel Co.	Lafayette	Sub-bituminous	192	36	63,869	600
Standard	Rocky Mountain Fuel Co.	Lafayette	Sub-bituminous	179	50	52,879	350
Aene	Rocky Mountain Fuel Co.	Louisville	Sub-bituminous	144.8	69	41,297	300
Gorham	Rocky Mountain Fuel Co.	Gorham	Sub-bituminous	192.5	24	23,702	200
Vulcan	Rocky Mountain Fuel Co.	Lafayette	Sub-bituminous	24.5	14	2,812	300
Monarch No. 2	National Fuel Co.	Broomfield	Sub-bituminous	215.4	197	146,355	725
Centennial	Big Four Coal & Coke Co.	Louisville	Sub-bituminous	130.7	127	91,307	750
Capitol	Ajax Coal M. Co.	Louisville	Sub-bituminous	280.8	39	43,103	200
Crown	Crown Fuel Co.	Gorham	Sub-bituminous	168	59	34,253	350
Black Diamond	Boulder Coal M. Co.	Boulder	Sub-bituminous	299.3	20	20,724	180
Champion (Paramount)	Domeneiro & Sons	Louisville	Sub-bituminous	117.2	43	15,887	200
Nonpareil	Head Brothers	Louisville	Sub-bituminous	172	15	15,111	150
Cracker Jack	Cracker Jack Coal Co.	Boulder	Sub-bituminous	172	8	6,788	.....
Gorham No. 2	C. M. Adams	Gorham	Sub-bituminous	214	3	1,988	9
Red Ash	Red Ash Coal Co.	Gorham	Sub-bituminous	203	2	1,450	6
Lewis	Davis Coal Co.	Gorham	Sub-bituminous	225	2	1,105	.....
Blue Goose	John T. Sidle	Boulder	Sub-bituminous	126	6	833	20
Matchless	Matchless Fuel Co.	Gorham	Sub-bituminous	25	2	363	.....
Total Number of	Mines Operated: 19			177.3	844	682,511	.....

TABLE B—Continued
DELTA COUNTY

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
King	Juanita Coal & Coke Co.	Bowie	Bituminous.....	89	63	60,342	1,000
Green Valley.....	Green Valley Coal Co.	Cedaredge	Semi-bituminous..	293	6	6,233	50
Paonia	Paonia-Farmers Coal Co.	Paonia	Semi-bituminous..	227	4	5,886	40
Red Mountain.....	A. W. Hall & Son	Cedaredge	Semi-bituminous..	231	5	4,677	40
Red Canon	Wade Coal Co.	Cedaredge	Semi-bituminous..	237.1	3	3,185	30
States	States Coal Co.	Cedaredge	Semi-bituminous..	236	2	2,315	30
Kurtzville	Mike Mingan	Hotchkiss	Bituminous.....	245	2	1,614	5
Converse	Frank Converse	Paonia	Semi-bituminous..	176	1	1,186	30
Fairview	Sootless Fuel Co.	Eckert	Semi-bituminous..	108	1	742	2
Winton	Winton Coal Co.	Austin	Semi-bituminous..	170	2	703	.....
Rollins	McMillin Bros.	Delta	Semi-bituminous..	78	2	650	.....
Independent	Independent Coal Co.	Cedaredge	Semi-bituminous..	166	2	479	10
Bennett	Bennett Coal Co.	Hotchkiss	Semi-bituminous..	70	2	398	10
Old Coalby	John Stillwagon	Cedaredge	Semi-bituminous..	65	1	137	.....
Total Number of	Mines Operated: 14	.....	.....	129.4	96	88,547	.....

ELBERT COUNTY

Burntall	Investors Securities Co.	Matheson	Sub-bituminous...	315	2	1,458	.....
Mascot	W. B. Campbell	Matheson	Sub-bituminous...	120	4	802	.....
Wright	Wright Barker	Matheson	Sub-bituminous...	84	1	267	25
Total Number of	Mines Operated: 3	.....	.....	170.6	7	2,527	.....

EL PASO COUNTY

Pikeview	Pikes Peak Fuel Co.	Colorado Springs...	Sub-bituminous...	201	189	230,245	1,500
Keystone	Keystone Mining Co.	Colorado Springs...	Sub-bituminous...	219	41	46,722	250
City Coal Mines.....	Colorado Springs Co.	Colorado Springs...	Sub-bituminous...	235	66	55,139	400
Altitude	Altitude Coal Co.	Colorado Springs...	Sub-bituminous...	203	18	10,291	50
Patterson	W. D. Corley	Colorado Springs...	Sub-bituminous...	100	15	7,179	150
Corley	W. D. Corley	Colorado Springs...	Sub-bituminous...	85	14	3,279	50
Franceville	W. D. Corley	Colorado Springs...	Sub-bituminous...	149	3	1,086	50
Danville	Danville Coal Co.	Colorado Springs...	Sub-bituminous...	252	5	2,831	25
Golden Dawn.....	Golden Dawn Coal Co.	Rush	Sub-bituminous...	168	2	1,762	15
Drennan	Drennan Coal Co.	Colorado Springs...	Sub-bituminous...	240	2	1,030	....
Cottonwood	Cottonwood Coal Co.	Colorado Springs...	Sub-bituminous...	289	2	761	6
Rush	Rush Coal Co.	Rush	Sub-bituminous...	157	2	486	12
Total Number of	Mines Operated: 12			201.2	359	360,811	....

FREMONT COUNTY

Coal Creek	Colorado Fuel & Iron Co.	Rockvale	Semi-bituminous...	189.3	187	122,850	800
Rockvale	Colorado Fuel & Iron Co.	Rockvale	Semi-bituminous...	190.2	189	110,486	900
Fremont	Colorado Fuel & Iron Co.	Florence	Semi-bituminous...	171.9	112	66,459	300
Nonac	Colorado Fuel & Iron Co.	Canon City.....	Semi-bituminous...	197.5	32	25,172	150
Emerald	Colorado Fuel & Iron Co.	Florence	Semi-bituminous...	121.4	58	17,100	300
Chandler	Victor-American Fuel Co.	Chandler	Semi-bituminous...	238.1	240	262,320	1,000
Radiant	Victor-American Fuel Co.	Pyrolite	Semi-bituminous...	80.7	118	25,759	500
Canon	Canon-Reliance Coal Co.	Canon City.....	Semi-bituminous...	249	79	59,555	450
Brookside	Vezzettli & Moschetti.	Canon City.....	Semi-bituminous...	229.5	13	15,619	75
Bluff Springs.....	Bluff Springs Coal Co.	Florence	Semi-bituminous...	254	21	13,235	60
Griffiths	Griffiths Coal Co.	Canon City.....	Semi-bituminous...	176	9	8,014	60
Double Dick.....	Double Dick Coal Co.	Coal Creek.....	Semi-bituminous...	283	11	6,738	...
Florence-Canon	Canon District Coal Co.	Chandler	Semi-bituminous...	209	18	6,688	50
Walden	Rochio Coal Co.	Coal Creek.....	Semi-bituminous...	122	17	5,595	50
Royal Gorge.....	Royal Gorge Coal Co.	Canon City.....	Semi-bituminous...	235	2	2,586	15
Willie	Willie Coal Co.	Florence	Semi-bituminous...	250	3	2,547	6
Magnet	North Magnet Coal Co.	Florence	Semi-bituminous...	179	6	1,913	10
Brewster	Brewster Independent Coal Co.	Florence	Semi-bituminous...	209	6	1,771	20
Jack O'Lantern.....	Canon United Coal Co.	Canon City.....	Semi-bituminous...	49	3	1,738	15
Mohawk	Black Hawk Coal Co.	Canon City.....	Semi-bituminous...	150	5	926	...
Newlin	Colorado Canon Coal Co.	Florence	Semi-bituminous...	53	9	849	...
South Magnet.....	Canon Quality Coal Co.	Rockvale	Semi-bituminous...	128	6	318	...
Total Number of	Mines Operated: 22			187.8	1,144	698,238	...

TABLE B—Continued
GARFIELD COUNTY

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
Carbonera	Gilson Asphaltum Co.....	Mack	Bituminous.....	223.5	9	11,246	60
South Canon.....	South Canon Mine Leasing Co.....	Glenwood Springs.....	Bituminous.....	191	8	4,126	100
Estes No. 2.....	James F. Estes.....	Rifle	Bituminous.....	50	6	2,050	50
Rauman	Rauman Coal Co.....	Rifle	Bituminous.....	290	3	1,532	40
McLearn	Ziesenius & Wilson.....	Rifle	Bituminous.....	146	2	1,397	25
Harvey Gap	Bracken & Cozza.....	New Castle.....	Bituminous.....	222.1	2	1,067	....
Earnest	Perko & Zullo.....	Glenwood Springs.....	Bituminous.....	144	1	509	4
Ohkraut	Ohkraut Mining Co.....	Glenwood Springs.....	Bituminous.....	76	1	231	....
Total Number of	Mines Operated: 8.....			184.6	32	22,758	....

GUNNISON COUNTY

Somerset	Calumet Fuel Co.....	Somerset	Bituminous.....	134.8	207	186,472	1,800
Crested Butte.....	Colorado Fuel and Iron Co.....	Crested Butte	Bituminous.....	126.5	112	68,443	600
Elk Mountain.....	Colorado Fuel and Iron Co.....	Crested Butte	Semi-anthracite ..	125	80	47,229	425
Horace	Ross Coal Co.....	Crested Butte	Anthracite	180	68	34,797	300
Smith-Anthracite	Crested Butte Anthracite M. Co.	Crested Butte	Anthracite	198	41	35,268	300
Bulkley No. 2.....	Crested Butte Coal Co.....	Crested Butte	Bituminous.....	206	39	42,011	400
Alpine	Rocky Mountain Fuel Co.....	Baldwin	Semi-bituminous...	121	44	27,643	350
Oliver	Oliver Fuel & Coal Products Co.	Somerset	Semi-anthracite...	249	30	13,386	100
Ohio Creek.....	Ohio Creek Coal M. Co.....	Gunnison	Semi-bituminous...	94	24	8,070	150
Baldwin-Star	Baldwin Fuel Co.....	Baldwin	Bituminous.....	116	7	5,762	100
Total Number of	Mines Operated: 10.....			147.7	652	469,081

HUERFANO COUNTY

STATE INSPECTOR OF COAL MINES

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Robinson-Walsen	Colorado Fuel and Iron Co.	Walsen	Bituminous	203.4	310	319,295	2,050
Cameron	Colorado Fuel and Iron Co.	Farr	Bituminous	201.1	171	184,875	1,000
Ideal	Colorado Fuel and Iron Co.	Ideal	Bituminous	201.8	193	17,586	700
Lester	Colorado Fuel and Iron Co.	Lester	Bituminous	206.7	297	179,223	900
Pictou	Colorado Fuel and Iron Co.	Pictou	Bituminous	190.9	97	99,883	800
Kepler No. 2	Colorado Fuel and Iron Co.	Tioga	Bituminous	194.3	41	46,440	600
Jobal	Colorado Fuel and Iron Co.	Walsen	Bituminous	78.1	29	18,466	300
Calumet No. 1	Calumet Fuel Co.	Delcarbon	Bituminous	201.1	194	204,977	1,000
Calumet No. 2	Calumet Fuel Co.	Delcarbon	Bituminous	186.1	69	62,595	500
Oakdale	Oakdale Coal Co.	Oakview	Bituminous	266	137	108,256	600
Alamo	Alamo Coal Co.	Alamo	Bituminous	298	106	84,639	1,500
Mutual	Mutual Coal Co.	Walsenburg	Bituminous	210.4	119	86,105	600
Sunnyside	Sunnyside Coal M. Co.	Strong	Bituminous	170.5	87	82,043	700
Gordon	Gordon Coal Co.	Gordon	Bituminous	231.5	98	66,397	300
Ravenwood	Caliente Coal Co.	Ravenwood	Bituminous	257	113	65,080	500
Mattland Nos. 1 and 2	Caliente Coal Co.	Mattland	Bituminous	262.1	73	41,960	335
Toltec	Aztec Coal M. Co.	Toltec	Bituminous	203.3	70	60,372	350
Pryor	Union Coal & Coke Co.	Pryor	Bituminous	105.5	74	44,655	500
Vesta	Vesta Mines, Inc.	Gordon	Bituminous	119	43	21,619	300
Caddell	Black Canon Coal & Fuel Co.	Walsenburg	Bituminous	147	45	16,835	125
Reliance	Purity Coal Co.	Ojo	Bituminous	132	45	13,756	300
Leader	Fruth & Stone	Rouse	Bituminous	228	23	8,986	75
Leader No. 3	Fruth & Stone	Walsenburg	Bituminous	37	7	615	
Hezron	Caddell & Son	Lester	Bituminous	57.3	8	5,282	50
No Ash	No Ash Coal Co.	Rouse	Bituminous	178	6	3,245	20
Round Oak	Brown Coal Co.	Walsenburg	Bituminous	107	8	2,431	50
Cuchara Canon	Veta Coal Co.	Walsenburg	Bituminous	81	18	2,332	80
Bunker Hill	Steve Mattivi & Sons	Rapson	Bituminous	58	21	2,000	75
Wellington	Wellington Coal Co.	Pryor	Bituminous	30	12	1,590	50
Fern	Spanish Peak Coal Co.	Ojo	Bituminous	82	5	743	
Rugby	Rugby Collieries Co.	Rugby	Bituminous	15	31	662	100
Black Hills	Black Hills Coal Co.	Tioga	Bituminous	52	2	280	50
Total Number of	Mines Operated: 32			199.9	2,552	2,005,223	

TABLE B—Continued
JACKSON COUNTY

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
Moore No. 1.....	North Park Coal Co.....	Coalmont	Sub-bituminous ..	214	56	63,931	500
Moore No. 2.....	North Park Coal Co.....	Coalmont	Sub-bituminous...	97	10	2,806	...
Marr	Joseph Simpson	Walden	Sub-bituminous ..	155	3	3,000	50
Total Number of	Mines Operated: 3.....	.....	.....	194.5	69	69,787	...
JEFFERSON COUNTY							
Leyden No. 3.....	Leyden Coal Co.....	Leyden	Sub-bituminous...	212.8	123	121,662	1,000
Christensen	Christensen Coal Co.....	Littleton	Sub-bituminous...	214	7	3,334	100
Sharon	Green Mountain Coal & Clay Co.	Morrison	Sub-bituminous ..	179	4	2,020	...
Total Number of	Mines Operated: 3.....	.....	.....	211.9	134	127,616	...
LA PLATA COUNTY							
Perins Peak	Calumet Fuel Co.....	Perins	Bituminous.....	175	59	42,192	300
San Juan	American Smelting & Ref. Co.	Durango	Bituminous.....	197	31	21,613	150
Sunshine	Sunshine Coal Co.....	Durango	Bituminous.....	181	10	9,222	60
Morning Star	Bandino & Co.....	Durango	Bituminous.....	170	7	5,432	40
New Porter	Durango Coal Co.....	Durango	Bituminous.....	186	9	3,915	45
O. K.	O. K. Coal Co.....	Durango	Bituminous.....	165	6	3,188	30
Champion	Champion Coal M. Co.	Durango	Bituminous.....	153	6	1,981	50
Peacock	R. V. Gadberry.....	Hesperus	Semi-bituminous..	184	3	1,453	...
Tipotsch	Frank Tipotsch	Hesperus	Semi-bituminous..	179	2	1,174	20
Valley View	Karl Hauert	Mancos	Semi-bituminous..	120	3	910	20
Triangle	Triangle Coal Co.....	Durango	Bituminous.....	76	4	611	50
Minnie	Minnie Coal Co.....	Durango	Bituminous.....	177	2	572	8
Beaver Creek	Joseph Montague	Bayfield	Bituminous.....	143	1	487	...
Grange	Florida Grange	Falfa	Bituminous.....	90	2	177	...
Total Number of	Mines Operated: 14.....	174.7	145	92,927	...

LAS ANIMAS COUNTY

STATE INSPECTOR OF COAL MINES

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Morley	Colorado Fuel & Iron Co.	Morley	Bituminous.	270.5	290	320.473	1,200
Sopris	Colorado Fuel & Iron Co.	Sopris	Bituminous.	263.7	303	256.291	1,200
Berwind	Colorado Fuel & Iron Co.	Berwind	Bituminous.	246.2	231	214.332	1,900
Frederick	Colorado Fuel & Iron Co.	Valdez	Bituminous.	142.7	281	202.347	1,400
Tabasco	Colorado Fuel & Iron Co.	Berwind	Bituminous.	179.4	202	171.692	900
Primero	Colorado Fuel & Iron Co.	Primero	Bituminous.	137.7	235	169.716	700
Toller	Colorado Fuel & Iron Co.	Berwind	Bituminous.	248.1	129	135.801	500
Engle	Colorado Fuel & Iron Co.	Trinidad	Bituminous.	60	8	41.138	50
Delagua	Victor-American Fuel Co.	Delagua	Bituminous.	170.7	470	362.584	2,500
Cass	Victor-American Fuel Co.	Delagua	Bituminous.	127.2	124	28.455	1,000
Boncarbo	American Smelting & Ref. Co.	Cokedale	Bituminous.	259	237	289.945	1,500
Royal	Royal Fuel Co.	Agular	Bituminous.	215.4	258	204.412	1,100
Thor	National Fuel Co.	Bowen	Bituminous.	280	129	127.333	500
Broadhead No. 9	Temple Fuel Co.	Broadhead	Bituminous.	226.5	184	134.413	600
Dix	Dick Coal Co.	Boncarbo	Bituminous.	229.5	65	85.464	500
Empire	Empire Coal M. Co.	Agular	Bituminous.	127	110	83.304	700
Ludlow	Huerfano Coal Co.	Ludlow	Bituminous.	183	97	68.714	600
Jewel	Jewel Collieries Corp.	Agular	Bituminous.	212	61	47.579	275
Three Pines	Three Pines Coal Co.	Valloriso	Bituminous.	181	80	46.052	250
Bear Canon No. 6	Bear Canon Coal Co.	Valloriso	Bituminous.	126.1	86	44.446	750
Stanley	Stanley Mine Co.	Boncarbo	Bituminous.	195	200	37.842	200
Southwestern	Rocky Mountain Fuel Co.	Agular	Bituminous.	161.6	45	27.576	200
Forbes No. 9	Rocky Mountain Fuel Co.	Forbes	Bituminous.	111.5	42	14.841	350
Prairie Canon	Prairie Canon Coal Co.	Valloriso	Bituminous.	175	51	20.798	250
Rapson	Rapson Coal M. Co.	Rapson	Bituminous.	161.1	55	20.409	300
Greenville	Cedar Hill Coal & Coke Co.	Ludlow	Bituminous.	181.3	20	14.728	200
Jeffries	Jeffries Fuel Co.	Trinidad	Bituminous.	231	17	5.893	200
Vickers	Vickers Coal Co.	Rugby	Bituminous.	202	18	5.472	100
Baldy Mountain	Trinidad Coal Co.	Trinidad	Bituminous.	263	4	2.531	15
Baldy	William Irons, Jr.	Trinidad	Bituminous.	120	4	1.607	.....
Pawcet	Pine Fuel Co.	Agular	Bituminous.	245	2	1.213	.....
Pritchard	Wilton Coal Co.	Trinidad	Bituminous.	176	2	1.203	8
Beshoar	Joerger Fuel Co.	Trinidad	Bituminous.	231	2	1.027	.....
Santa Fe	Santa Fe Coal Co.	Trinidad	Bituminous.	30	6	977	400
Pickford	Boagho Coal Co.	Trinidad	Bituminous.	175	1	793	6
Congo	Andy Collier	Trinidad	Bituminous.	190	1	527	3
Vigil	Jose S. Vigil	Agular	Bituminous.	120	3	519	.....
Morris	J. V. Cornwell	Valdez	Bituminous.	107	3	472	.....
Niggerhead	J. V. Cornwell	Trinidad	Bituminous.	101	2	337	.....
Thompson	Fairview Coal Co.	Sopris	Bituminous.	90	2	465	3
Verdun	Dennis & Malone	Trinidad	Bituminous.	168	1	375	2
Martinez	Manuel Martinez	Cokedale	Bituminous.	120	2	340	.....
Fishers Peak	R. Marsh	Trinidad	Bituminous.	74	2	206	.....
McIntosh	Enrleta & Co.	Trinidad	Bituminous.	18	1	46	.....

Total Number of Mines Operated: 44.

3,157,988

3,939

201.4

TABLE B--Continued
MESA COUNTY

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
Cameo	Grand Junction M. & F. Co.	Cameo	Semi-bituminous..	173	74	75,311	600
Palisade	Palisade Coal & Supply Co.	Palisade	Semi-bituminous..	225.3	30	20,747	175
Midwest	Midwest Coal Co.	Palisade	Semi-bituminous..	175	26	12,772	200
Garfield	Gearhart & Phillips	Palisade	Semi-bituminous..	138	18	6,153	30
Stokes	W. D. Stokes	Palisade	Semi-bituminous..	211	7	4,302	80
Riverside	Riverside Coal Co.	Palisade	Semi-bituminous..	216	6	3,772	40
Winger	Mesa Fuel Co.	Palisade	Semi-bituminous..	220	4	3,507	40
Hidden Treasure	Hidden Treasure Mining Co.	Grand Junction	Semi-bituminous..	175	3	1,357	25
Thomas	Thomas Coal Co.	Grand Junction	Semi-bituminous..	267	4	1,887	25
Stove Canyon	O. K. McLendon	Fruita	Semi-bituminous..	235.7	3	1,669	15
Farmers	Farmers Mutual Coal Co.	Grand Junction	Semi-bituminous..	182.4	3	1,635	20
Nearing	Liberty Coal & Merc. Co.	Fruita	Semi-bituminous..	229	2	1,196	20
Anchor No. 2	Anchor Coal Co.	Fruita	Semi-bituminous..	118	2	745	60
McGinley	Wm. McGinley	Grand Junction	Semi-bituminous..	90	2	606	...
Hunter	J. B. Hunter	Fruita	Semi-bituminous..	76	2	449	15
Crescent	Crescent Coal Co.	Grand Junction	Semi-bituminous..	26	2	186	10
Total Number of	Mines Operated: 16			181.8	188	136,694	...

MOFFAT COUNTY

Mt. Evans	Mt. Evans Fuel Co.	Craig	Bituminous.....	243	4	3,424	20
Baker	Langley & Wolf	Craig	Bituminous.....	120	3	2,000	12
Knez	Knez Coal Co.	Craig	Bituminous.....	157	1	999	...
Wise	Williams Fork L. & C. Co.	Craig	Bituminous.....	90	2	200	10
Walker	Walker Land & Cattle Co.	Craig	Bituminous.....	90	2	185	...
Total Number of	Mines Operated: 5			154.1	12	6,808	...

MONTEZUMA COUNTY

School Sec. Lease.....	French & Fielding.....	Mancoes.....	Sub-bituminous.....	200	4	2,046	15
Kelly.....	Cortez Coal Co.....	Cortez.....	Sub-bituminous.....	255	5	1,840	7
Bloom.....	F. W. Bloom.....	Mancoes.....	Sub-bituminous.....	170	6	1,500	30
Freeman.....	J. R. Freeman.....	Mancoes.....	Sub-bituminous.....	154	2	933	496
Spencer.....	George S. Spencer.....	Mancoes.....	Sub-bituminous.....	203	1	496	183
Total Number of	Mines Operated: 5.....			183	18	6,815	000

MONTROSE COUNTY

Happy Canon.....	Happy Canon Coal Co.....	Montrose.....	Sub-bituminous.....	236	6	1,366	7
Oberding.....	W. J. Oberding.....	Nuclea.....	Sub-bituminous.....	120	1	480	405
Liberty Bell.....	John H. Drott.....	Nuclea.....	Sub-bituminous.....	200	1	349	15
Cloverdale.....	Naturita Stores Co.....	Nuclea.....	Sub-bituminous.....	76	2	190	4
Pleasant Valley.....	Chas. Rice & Sons.....	Nuclea.....	Sub-bituminous.....	50	2	190	11
Total Number of	Mines Operated: 5.....			175	11	2,790	000

PITKIN COUNTY

Marion.....	J. R. Marchetti.....	Carbondale.....	Bituminous.....	234	2	3,167	30
Placita.....	Rapin & Hughes.....	Carbondale.....	Bituminous.....	210	3	2,640	50
Crystal.....	Crystal River Coal Co.....	Carbondale.....	Bituminous.....	22	4	134	5,941
Total Number of	Mines Operated: 3.....			131	9	5,941	000

RIO BLANCO COUNTY

Black Diamond.....	Donnelly & Reynolds.....	Meeker.....	Bituminous.....	285	2	1,972	50
Lion Canon.....	Smith & Long.....	Meeker.....	Bituminous.....	302	2	919	497
Oldland.....	Good Coal Co.....	Meeker.....	Bituminous.....	67	1	468	400
Pollard.....	Electric Coal Co.....	Meeker.....	Bituminous.....	120	1	400	2
Sulphur.....	Sulphur Coal Co.....	Meeker.....	Bituminous.....	100	1	216	208
Nine Mile.....	Thos. D. Foreman.....	Meeker.....	Bituminous.....	90	1	163	4
Riley.....	T. D. Riley.....	Meeker.....	Bituminous.....	190	2	208	13
Fairfield.....	George Clark.....	Meeker.....	Bituminous.....	60	1	163	4,873
Total Number of	Mines Operated: 8.....			180	13	4,873	000

TABLE B—Continued
ROUT COUNTY

Name of Mine	Name of Company	Mine Postoffice	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total No. of Tons Produced	Capacity of Mine Per Day, Tons
Oak Hills No. 1.....	Moffat Coal Co.....	Oak Creek.....	Bituminous.....	67.7	182	151,821	2,000
Oak Hills No. 2.....	Moffat Coal Co.....	Oak Creek.....	Bituminous.....	57.1	178	143,052	2,000
Pinnacle.....	Victor-American Fuel Co.....	Oak Creek.....	Bituminous.....	87.1	151	133,350	2,000
Wadge.....	Victor-American Fuel Co.....	Mt. Harris.....	Bituminous.....	64.2	90	71,041	1,200
Harris.....	Colorado & Utah Coal Co.....	Mt. Harris.....	Bituminous.....	88	253	218,538	2,500
Hayden.....	Hayden Bros. Coal Corp.....	Haybro.....	Bituminous.....	55.1	77	56,603	1,800
Bear River.....	Bear River Coal Co.....	Bear River.....	Bituminous.....	65.8	61	44,121	700
MacGregor.....	McNeil Coal Co.....	MacGregor.....	Bituminous.....	30.8	58	38,128	1,200
Wolf Creek.....	International Fuel Corp.....	Mt. Harris.....	Bituminous.....	69.5	43	31,779	300
Yampa.....	Yampa Fuel Co.....	Milner.....	Bituminous.....	49	31	5,285	100
Routt Pinnacle.....	American Coal & Power Co.....	Bear River.....	Bituminous.....	15.6	25	5,024	350
Babson.....	Babson Mines Co.....	Hayden.....	Bituminous.....	127	6	1,717	20
Butcher Knife.....	Butcher Knife Coal Co.....	Bear River.....	Bituminous.....	100	5	1,293	25
Seven Points.....	Seven Points Coal Co.....	Oak Creek.....	Bituminous.....	223	1	928	50
Dry Creek.....	Hayden Valley Mutual Coal Co.	Hayden.....	Bituminous.....	134	3	856	....
Solar.....	Solar Coal M. Co.....	Milner.....	Bituminous.....	5.5	11	540	....
Arthur.....	Arthur Coal Co.....	Oak Creek.....	Bituminous.....	77	1	440	10
Chergo.....	Thomas Chergo.....	Oak Creek.....	Bituminous.....	66	1	360	....
Total Number of	Mines Operated: 18.....	.....	.....	68.6	1,177	904,876	....

SAN MIGUEL COUNTY

Best.....	Best Coal Co.....	Norwood.....	Sub-bituminous...	90	2	322	....
Total Number of	Mines Operated: 1.....	.....	.....	90	2	322	....

WELD COUNTY

Columbine	Rocky Mountain Fuel Co.....	Serene	Sub-bituminous...	271.7	308	366,806	2,500
Grant	Rocky Mountain Fuel Co.....	Frederick	Sub-bituminous...	115.2	79	83,747	1,000
Frederick	Rocky Mountain Fuel Co.....	Frederick	Sub-bituminous...	29.5	13	2,828	300
Puritan	National Fuel Co.....	Dacono	Sub-bituminous...	200	229	281,503	2,000
Clayton	Clayton Coal Co.....	Erie	Sub-bituminous...	191	160	284,304	1,500
Boulder Valley	Boulder Valley Coal Co.....	Erie	Sub-bituminous...	150.7	125	186,969	1,300
Baum	Consolidated Coal & Coke Co..	Dacono	Sub-bituminous...	182.8	90	141,197	1,000
Sterling	Grand Junction M. & F. Co..	Dacono	Sub-bituminous...	142	78	109,639	1,000
Evans	International Fuel Corp.....	Frederick	Sub-bituminous...	224.1	66	84,250	800
Russell	Wm. F. Russell Coal Co.....	Frederick	Sub-bituminous...	166.5	57	62,600	500
Shamrock	Shamrock Coal Co.....	Erie	Sub-bituminous...	183	33	51,124	200
Eureka	Bell Mining Co.....	Frederick	Sub-bituminous...	173	25	22,992	250
Monroe	United Collieries Co.....	Erie	Sub-bituminous...	166.5	25	19,715	...
Witherbee	L. L. & I. Coal Co.....	Fort Lupton	Sub-bituminous...	278	4	2,342	50
White Ash	White Ash Coal Co.....	La Salle	Sub-bituminous...	291	4	1,490	5
Total Number of	Mines Operated: 15			198.3	1,296	1,651,506	...
Total for State—	Number of Mines Operated: 262			181.5	12,703	10,501,088	...

TABLE C

PRODUCTION OF COUNTIES BY MONTHS—1924

Months	Archuleta	Boulder	Delta	Elbert	El Paso	Fremont
January.....	239	93,381	12,604	375	50,806	87,522
February.....	47	58,458	6,339	206	36,759	50,013
March.....	38	69,397	4,196	189	41,039	56,291
April.....	25	36,543	5,404	45	26,169	46,394
May.....	121	29,335	4,493	68	19,335	53,792
June.....	102	22,619	3,568	4	14,537	33,418
July.....	52	26,479	3,491	54	14,866	33,201
August.....	313	38,895	5,409	14	15,251	45,341
September.....	401	79,770	10,113	129	24,408	63,372
October.....	484	67,102	11,553	182	29,733	76,468
November.....	272	64,388	9,362	324	33,959	69,395
December.....	325	96,174	12,015	937	53,949	83,031
Totals.....	2,419	682,541	88,547	2,527	360,811	698,238

	Garfield	Gunnison	Huerfano	Jackson	Jefferson	La Plata
January.....	3,266	42,585	235,097	7,002	18,095	10,572
February.....	2,199	36,601	156,170	6,428	11,626	6,894
March.....	1,550	24,831	155,250	6,489	13,242	5,958
April.....	1,354	31,297	129,195	5,996	8,544	8,284
May.....	1,066	34,015	125,523	4,015	7,829	5,938
June.....	795	34,672	98,444	2,517	6,401	5,425
July.....	700	31,458	114,290	2,124	6,836	6,063
August.....	894	39,252	137,481	3,293	7,104	5,192
September.....	1,602	48,022	182,513	5,128	10,422	8,701
October.....	2,128	57,065	231,077	8,613	10,335	10,094
November.....	2,073	45,482	205,194	7,710	9,952	9,150
December.....	5,131	43,801	234,989	10,472	17,230	10,656
Totals.....	22,758	469,081	2,005,223	69,787	127,616	92,927

	Las Animas	Mesa	Moffat	Montezuma	Montrose	Pitkin
January.....	312,859	17,763	654	885	426	859
February.....	285,919	12,119	328	438	158	397
March.....	281,115	7,286	278	285	133	202
April.....	265,998	7,775	399	296	173	277
May.....	244,968	5,749	190	164	75	253
June.....	240,654	6,081	186	156	51	294
July.....	274,258	5,977	171	190	40	344
August.....	253,208	10,245	211	222	14	603
September.....	253,326	15,975	378	403	22	594
October.....	249,376	18,370	360	639	26	629
November.....	220,364	12,922	326	786	37	739
December.....	275,943	16,432	3,327	2,351	1,635	750
Totals.....	3,157,988	136,694	6,808	6,815	2,790	5,941

	Rio Blanco	Routt	San Miguel	Weld	Grand Total
January.....	582	64,717	.....	256,361	1,216,650
February.....	328	63,217	.....	152,079	886,723
March.....	343	48,580	.....	179,668	896,360
April.....	219	53,073	.....	95,879	723,339
May.....	111	77,273	.....	66,262	680,575
June.....	142	51,032	.....	46,633	567,731
July.....	91	50,323	.....	48,029	619,037
August.....	136	77,996	.....	59,335	700,409
September.....	396	81,544	.....	152,597	939,816
October.....	450	115,243	.....	163,609	1,053,536
November.....	418	117,443	.....	179,181	989,477
December.....	1,657	104,435	322	251,873	1,227,435
Totals.....	4,873	904,876	322	1,651,506	10,501,088

TABLE D

SHOWING INCREASE AND DECREASE BY COUNTIES, 1923-1924

Counties	Tons Produced 1923	Tons Produced 1924	Increase	Decrease
Archuleta	1,896	2,419	523	.....
Boulder	636,733	682,541	45,808	.....
Delta	108,785	88,547	.....	20,238
Elbert	3,001	2,527	.....	474
El Paso	360,357	360,811	454	.....
Fremont	612,221	698,238	86,017	.....
Garfield	23,146	22,758	.....	388
Gunnison	542,836	469,081	.....	73,755
Huerfano	1,969,399	2,005,223	35,824	.....
Jackson	51,996	69,787	17,791	.....
Jefferson	154,713	127,616	.....	27,097
La Plata	110,523	92,927	.....	17,596
Las Animas	3,195,434	3,157,988	.....	37,446
Mesa	176,092	136,694	.....	39,398
Moffat	2,680	6,808	4,128	.....
Montezuma	4,677	6,815	2,138	.....
Montrose	2,105	2,790	685	.....
Pitkin	3,449	5,941	2,492	.....
Rio Blanco	4,834	4,873	39	.....
Routt	799,922	904,876	104,954	.....
San Miguel	419	322	.....	97
Weld	1,571,517	1,651,506	79,989	.....
Totals	10,336,735	10,501,088	.....	.....

Increase, 1924..... 164,353

TABLE E

COKE PRODUCTION IN 1924 BY COMPANIES AND COUNTIES

Companies	Total No. of Ovens Used	Total Tonnage	Counties	Total No. of Ovens Used	Total Tonnage
American Smelting and Refining Co....	324½	149,661	La Plata	24½	9,653
Colorado Fuel and Iron Co.....	235	588,684	Las Animas....	420	205,287
			Pueblo	120	523,405
Totals	559½	738,345		559½	738,345

REMARKS:

Average number of days worked at the coke ovens..... 337.5
 Average number of men employed at the coke ovens..... 213
 Number of tons of coal made into coke..... 1,260,209

TABLE F
SHOWING BY COUNTIES COAL PRODUCTION OF 1924 IN PREPARED SIZES

Counties	Mine Run	Lump	Nut	Pea	- Slack	Total Tons
Archuleta	216	1,796	.....	407	.....	2,419
Boulder	130,803	231,355	56,664	894	262,825	682,541
Delta	24,149	36,520	12,865	388	14,625	88,547
Elbert	1,070	1,033	169	44	211	2,527
El Paso	83,119	98,159	20,264	624	158,645	360,811
Fremont	51,673	330,391	118,958	4,484	192,732	698,238
Garfield	15,546	4,188	2,148	221	655	22,758
Gunnison	*375,367	58,340	9,507	.....	25,867	409,081
Huerfano	487,435	751,638	233,952	19,360	492,838	2,005,223
Jackson	9,967	26,238	12,893	600	20,069	69,787
Jefferson	28,156	30,235	15,660	807	52,758	137,616
La Plata	75,379	7,537	2,828	990	6,193	92,927
Las Animas	1,591,321	423,231	153,793	2,807	986,836	3,157,988
Mesa	57,299	45,804	8,655	1,618	23,318	136,694
Moffat	6,298	494	76	.....	.....	6,802
Montezuma	4,288	1,856	45	45	581	6,815
Montrose	2,057	522	.....	.....	211	2,790
Pitkin	5,941	.....	.....	.....	.....	5,941
Rio Blanco	1,546	2,719	496	.....	112	4,873
Routt	182,972	400,716	152,340	1,091	167,757	904,876
San Miguel	322	.....	.....	.....	.....	322
Weld	190,074	676,632	133,953	17,114	633,733	1,651,506
Totals	3,324,998	3,129,364	955,266	51,494	3,039,966	10,501,088

*70,065 tons Anthracite and 60,615 tons Semi-Anthracite coal included.

NOTE.—In the Slack, some mines include Pea and others Nut and Pea coal. The Egg and Grate coal is included in the Nut coal. (The Egg and Grate coal reported from Routt and Weld Counties.)

COAL PRODUCTION OF COLORADO FROM 1873 TO 1924, INCLUSIVE

Year	Tons	Year	Tons
1873.....	69,977	1899.....	4,826,939
1874.....	87,372	1900.....	5,495,734
1875.....	98,838	1901.....	6,021,405
1876.....	117,666	1902.....	7,522,923
1877.....	160,000	1903.....	7,775,302
1878.....	200,630	1904.....	6,776,551
1879.....	322,732	1905.....	8,989,631
1880.....	375,000	1906.....	10,308,421
1881.....	706,744	1907.....	10,965,640
1882.....	1,161,479	1908.....	9,773,007
1883.....	1,220,593	1909.....	10,772,490
1884.....	1,130,024	1910.....	12,104,887
1885.....	1,398,796	1911.....	10,197,595
1886.....	1,436,211	1912.....	11,016,948
1887.....	1,791,735	1913.....	9,268,939
1888.....	2,185,477	1914.....	8,201,423
1889.....	2,400,629	1915.....	8,715,397
1890.....	3,075,781	1916.....	10,522,185
1891.....	3,512,632	1917.....	12,515,305
1892.....	3,771,234	1918.....	12,658,055
1893.....	3,947,056	1919.....	10,406,543
1894.....	3,021,028	1920.....	12,514,693
1895.....	3,339,495	1921.....	9,141,947
1896.....	3,371,633	1922.....	10,003,610
1897.....	3,565,660	1923.....	10,336,735
1898.....	4,174,037	1924.....	10,501,088

MINE DISASTERS AND MISCELLANEOUS FATAL ACCIDENTS, 1924

Denver, Colorado, August 8, 1924.

Hon. William E. Sweet,
Governor of Colorado,
Denver, Colo.

Sir:

The following are my findings on the explosion in the Alamo Mine, situated in Huerfano county, Colorado, and operated by the Alamo Coal Company, of Denver, Colorado.

The explosion occurred at 5:40 a. m., August 5, 1924, resulting in the death of Alex McBirnie, who was employed as Fire Boss and Shot Firer. McBirnie entered the mine about 3:00 a. m. to fire shots and then examine the mine before other employees entered. All the shots on the north side had been fired by the deceased, who then went to the south side, to fire shots in the first south entry, when an explosion occurred with the above result.

I arrived at the mine the following morning and accompanied by Joseph Watson and Joseph Cochrane, Inspectors for the Mutual Insurance Company, E. H. McCleary, Manager for the Company, John Calderhead, Mine Foreman, and Deputy State Inspector of Coal Mines, Hugo H. Machin, together we made an inspection of the mine to determine the cause of the explosion. We first inspected the north workings, only in two of the places did we find indications of explosive gas with the ventilation partly deranged by the violence of the explosion. We then went into the south workings, found some gas in cross-cut being driven from the second south entry to the first south entry. At the face of the first south entry found a little gas in upper corner, this is the entry in which the body of deceased was found and also where the last shots were fired prior to the explosion. The entry had been advanced 156 feet beyond the last cross-cut and a line brattice had been extended after the explosion from the cross cut to the face of entry, there being no line brattice prior to the explosion. The usefulness of the one erected after the explosion was destroyed by us for the purpose of determining the approximate amount of gas being generated in this entry, and at the expiration of forty-five minutes we found about 900 to 1,000 cubic feet of explosive gas. In both sides of the mine many unlawful and dangerous shots were found, some of them dependent, others drilled too deep and too thick.

Four other employees were in the mine engaged in driving a rock slope when the explosion occurred but were not seriously injured because it was a single slope several hundred feet to the dip of the first south entry. It is my opinion that the explosion originated near or at face of first south entry and was caused by a flame used in lighting the fuses or from spitting of the fuses when lighted and coming in contact with a considerable accumu-

lation of explosive gas, which raised the coal dust and caused a general explosion of gas and coal dust throughout the mine.

Deceased's body was found with the head outward about fifty feet from the face of entry with safety lamp hanging on his belt, which would indicate, first, that he was getting out of the entry; second, that he was overcome before reaching a point considered safe from flying coal from the shots; and third, that his safety lamp was on his belt at the moment of the ignition. Two of the three holes in the first south entry were fired, this proves that they were tamped when the explosion occurred. They may have been fired by deceased or they may have been fired by the ignited gas.

It is evident that deceased did not examine this place for gas before tamping shots as required by law. There being so many unlawful and dangerous shots found, that there were also four other employees in the mine at the time of the explosion, and that the first south entry was advanced 156 feet in advance of the air current or 96 feet more than the law allows, all of which indicates that the supervision was very lax.

Respectfully submitted,

JAMES DALRYMPLE,
State Inspector of Coal Mines.

LIST OF FATAL ACCIDENTS WHICH OCCURRED IN THE COAL MINES OF COLORADO DURING THE YEAR 1924

- (1)—January 5th—ALBERT E. HAUSER, American, machine miner, experience 30 years, age 51 years, married, four children, employed by the National Fuel Company at the Puritan mine, Weld county, was killed by a delayed shot. The squibs in two holes had been lighted and the charge of one went off but the other was slow and after waiting about fifty seconds, deceased went towards the face, thinking the shot had missed, when nearly a ton of coal was blown against him. The accident was a mischance and is classed as unavoidable.
- (2)—January 22nd—HENRY E. SCOTT, American, machine miner, experience 5 years, age 22 years, single, employed by the Boulder Coal Mining Company at the Black Diamond mine, Boulder county, came to his death by a fall of pot rock. The coal had been shot the night before the accident, but the bursting shot left about 9 inches of coal adhering to the roof. The coal was directly under a pot rock making it difficult to detect it. The place was well timbered to within $5\frac{1}{2}$ feet of the face. The accident is classed as unavoidable.
- (3)—January 25th—AUGUST ECCHER, Italian, pick miner, experience 14 years, age 35 years, married, one child, employed by the Colorado Fuel & Iron Company at the Lester mine, Huerfano county, was injured on the 24th by a fall of drawslate and died the following day. In the section of the mine where this accident occurred the coal is overlaid by drawslate varying from 12 to 16 inches in thickness. After the coal is removed from under this drawslate, it is usually easy to take down, being full of slips and moisture and readily breaks loose from the top coal. In this instance, after some coal had been removed, the drawslate seemed tight, and was left standing. Deceased took his lunch and then returned to the face to work and after striking a few blows the drawslate gave way from a slip and fell on him. The accident might have been avoided had deceased sounded the drawslate when returning from his lunch.
- (4)—February 6th—REGINO GONZALES, Mexican, pick miner, experience six months, age 20 years, single, employed by the Colorado Fuel & Iron Company at the Berwind mine, Las Animas county, was injured January 28th of this year, by being squeezed between a car and prop, from the effects of which he died on the above date. Deceased was riding the front bumpers of an empty car in order that he might manipulate the brake so that the car would run slowly, and his partner, who was walking behind the car, would be able to turn

it into the switch. However, they lost control of the car and deceased either attempted to get off or else was thrown in such a way that he was caught between the car and prop. The accident was a mischance, but it is possible that it might have been avoided had either deceased or his partner realized the danger of riding the front end of a car going down grade and handled the car brakes with greater skill.

- (5)—February 9th—STRATIS LOUKOGIANIS, Greek, pick miner, experience 11 years, age 33 years, single, employed by the Colorado Fuel & Iron Company at the Toller mine, Las Animas county, was injured January 16, 1924, by a fall of rock, from the effects of which he died on the above date. Deceased and his partner were drawing a pillar. They had taken down some bone and were preparing to set a prop when a large rock gave way from an invisible slip and struck deceased. The place was well timbered and the accident is classed as "unavoidable."
- (6)—February 16th—ARTHUR C. RICHMOND, American, pick miner, experience 15 years, age 37 years, married, one child, employed by the Colorado Lumber & Investment Company at the Garfield mine, Mesa county, came to his death by falling in front of a trip of cars. Deceased was in the act of detaching a mule from a trip of cars at a point in a room where the gravity was such that the trip moved by its own momentum. He fell and was caught by the bumpers of the front car and dragged to death. The accident was a misadventure and unavoidable.
- (7)—February 23rd—WALTER ABSOLOM, Welsh, pick miner, experience 20 years, age 37 years, single, employed by the Mutual Coal Company at the Mutual mine, Huerfano county, was killed by a fall of rock. Deceased and his partner were driving a place 9 feet wide through an entry pillar. A small portion of a slip had been detected by the mine foreman a short time previously and he warned the men to put up timber. Deceased had always been a good and careful workman but in this instance he failed in his usual precaution and continued to work as the cars were plentiful and the coal coming freely. Had props been set up it is very likely the accident would have been avoided.
- (8)—February 27th—GEORGE WASHINGTON, American, colored, pick miner, experience 34 years, age 56 years, married, no children, employed by the Colorado Fuel & Iron Company at the Lester mine, Huerfano county, was killed by a fall of rock. Deceased and his partner were extracting a room pillar. The place had been thoroughly tested and found in good condition. Deceased had picked a little coal and was walking from the face to the roadway when a large pot fell out of the

roof and struck him, causing instant death. The accident was unforeseen and deceased, a careful workman, therefore, it is classed as "unavoidable."

- (9)—March 4th—FRED VOGT, American, trackman, experience 20 years, age 55 years, single, employed by the Victor-American Fuel Company at the Pinnacle mine, Routt county, came to his death by overstraining himself. On March 3rd he carried a rail weighing about 76 pounds a distance of 500 feet. Evidently the strain was so great that a blood clot formed from a valve of his heart, interfering with its action. He died the following day. No one is held responsible for his death.
- (10)—March 5th—JUAN D. BARROS, Mexican, pick miner, experience 18 years, age 45 years, married, five children, employed by Fruth & Stone at the Leader No. 1 mine, Huerfano county, was injured February 25, 1924, and died on the above date. On the day of the accident the mine was working with a small force and deceased, in the absence of the regular driver, hauled his own coal. While riding between the first and second car of a two-car trip, going up the slope, some coal fell on his feet and he lifted his body to shake it off, and was caught between the top of the car and roof and dragged by the moving trip over to the second car and injured to such an extent that he died nine days later. While deceased was not an experienced driver, the accident was a misadventure for which he could not be held responsible.
- (11)—April 3rd—JEFFERSON THOMAS ROGERS, American, machine helper, experience five years, age 23 years, married, one child, employed by the Calumet Fuel Company at the Calumet mine, Huerfano county, was killed by a fall of rock. Deceased and the machine runner had finished under-cutting a room neck and when pulling the machine to load on truck, the jack pipe slipped in resetting same; it seems that it was set against a carrier bar which was supporting four cross bars in the room neck. The jack pipe being sharp at the end set against the carrier bar, cut it in two when the pressure bore on it. This left the timbers too weak to further support the rock which they held in place. It came down, striking deceased and killing him and slightly injuring his partner. The accident might have been avoided had the jack pipe been properly set.
- (12)—April 4th—STEVE YENGICH, Austrian, pick miner, experience 12 years, age 47 years, married, six children, employed by the American Smelting & Refining Company at the Boncarbo mine, Las Animas county, was killed by a fall of rock. Deceased was drawing a pillar in an entry when a rock gave way from an invisible slip, the roof breaking over face of coal. Deceased had mined six inches at the face and thus

released the rock from top of coal. The place was well timbered and the accident is classed as "unavoidable."

- (13)—April 16th—GOST BEBOS, Greek, pick miner, experience 20 years, age 42 years, married, two children, employed by the Colorado Fuel & Iron Company, at the Tabasco mine, Las Animas county, was killed by a fall of rock. The accident occurred in a chain pillar during the night shift. In the day shift the mine foreman visited the place and stopped the men from extracting any more coal from the left side of the place because he found the roof conditions bad. The night mine foreman was notified to have the men of the night shift work at another place. This official having some repair work to do before the men could enter the mine, failed to give the message. After he got through with the repairs he telephoned over to the lamp house for the men to enter. Then he began to make his regular examinations and did not get to the place in question until after the accident occurred. The fall of rock was brought about by deceased extracting a thin strip of coal, which released an invisible slip. It fell on him and killed him instantly. Had deceased received the instructions of the day mine foreman, or time had been allowed the night foreman to make a fire boss examination before the men entered, the accident might have been avoided.
- (14)—May 6th—W. E. LANDEN, American, assistant mine foreman, experience 11 years, age 41 years, married, two children, employed by the Victor-American Fuel Company at the Chandler mine, Fremont county, was killed by a fall of rock. Deceased was standing in a room neck supervising the taking down of a rock on the opposite side. A prop had been set up to support the rock, but when it came down it knocked it out and the prop struck Landen on his head, fracturing his skull, which resulted fatally. The accident was unforeseen and no one is charged with its responsibility.
- (15)—May 17th—RAYMOND NAVARRO, Mexican, pick miner, experience 9 years, age 31 years, single, employed by the Colorado & Utah Coal Company at the Harris mine, Routt county, was crushed between two timbers. Deceased was on his way out of the mine when he heard a trip coming and to avoid it he stepped in between two props. In some way when the trip reached the point where he had taken refuge it became derailed and knocked one of the props out, which fell against deceased with such force that he died a few hours later from its effects. The accident is classed as "unavoidable."
- (16)—May 20th—JERONINO MARTINEZ, Mexican, machine miner, experience 25 years, age 39 years, married, five children, employed by the Alamo Coal Company at the Alamo mine, Huerfano county, was killed by a fall of coal from the face. De-

ceased and his partner were working on night shift and had loaded all but one car of coal which had been machine cut. Deceased was busy taking down a little loose coal that hung on the face about the middle of the room, when a slab of coal gave way from a slip that had not been visible. In his endeavor to get away from under the fall he tripped and fell and was caught and injured so severely that he died a few minutes later. The accident was a misadventure and is not charged to any one.

- (17)—May 20th—WILLIAM D. YOUNG, American, top boss, experience not given, age 56 years, married, two children, employed by the Pikes Peak Consolidated Fuel Company at the Pikeview mine, El Paso county, was killed by an explosion of black powder. Deceased was handing out powder out of the powder house when one man looking over the counter saw a fire on the floor and called to the men "beat it" and all ran and got away, but deceased and one other man outside, who was burned severely also. No one can account for the origin of the fire as all possible precaution was taken to safeguard against an explosion. It is possible that deceased unknowingly stepped on a match which ignited a few grains of powder which lay on the floor. There were about ten kegs full of powder and about a dozen partly filled that exploded and completely destroyed the powder house. The cause of the explosion cannot be determined and it is classed as an unforeseen accident.
- (18)—June 2nd—TIBURCIO APALONIAR, Mexican, pick miner, experience 2 years, age 41 years, married, two children, employed by The American Smelting & Refining Co., at the Boncarbo mine, Las Animas county, was injured May 14th by being caught between a car and prop and died on the above date. Deceased and his partners had loaded coal and a motor pulled out two loaded cars, and at the curve of the room neck cable the motor was caught on the rail, when it was released it gave the rope about two feet of slack permitting the cars to come back and strike deceased who was busy taking out the tracks from the room. The accident was a misadventure and is classed as "unavoidable."
- (19)—June 3rd—JULIAN MARTINEZ, Mexican, pick miner, experience 10 years, age 35 years, married, five children, employed by The Alamo Coal Co., at the Alamo mine, Huerfano county, was killed by a fall of rock. Deceased and his partner were working night shift. The shooting was done for the night shift at 5 p. m. and apparently the smoke had not yet cleared at 6 p. m. when deceased and his partner entered the mine and started to drive an upraise cross-cut between two entries. The coal here is overlaid with about 14 inches of drawslate which is frequently pierced by slips running up from the coal extending to the good roof above. While they

were loading a car a piece of rock fell from the roof striking deceased and killing him instantly. The accident might have been avoided had an examination been made after the shooting or before the night shift entered and the men not allowed to enter until the mine was reported in safe condition.

- (20)—June 25th—THOMAS J. JEFFERSON, American, pick miner, experience 20 years, age 34 years, single, employed by The Moffat Coal Co., at the Oak Hills No. 2 mine, Routt county, was killed by a fall of coal bumping off a pillar. Deceased was in the act of mining coal when the bump came and he tried to get away from it and fell against a car and was caught by the fall. There was a clearance of 8 feet between the pillar and car but it was an unforeseen accident and is classed as "unavoidable."
- (21)—July 15th—GIOMARIO USAI, Italian, pick miner, experience four years, age 41 years, married, four children, employed by the Colorado Fuel & Iron Company at the Berwind Mine, Las Animas county, was crushed between a coal face and car. Deceased was engaged in taking a skip off a pillar and had taken a car to the coal face. It seems that he held the car with his back to the face and the car standing on a dip caught him injuring him internally. The brake on the car was in good condition and the accident was unforeseen and, therefore, is classed as "unavoidable."
- (22)—July 21st—PABLO MADRIGAL, Mexican, pick miner, experience five years, married, five children, employed by The Colorado Fuel & Iron Company at the Frederick Mine, Las Animas county, was killed by being crushed between a car and rib. The mine being idle on the day of the accident, deceased was working alone and was in the act of taking three empty cars to the entry face. The track dips some where it curves from the main parting to the entries. Whether deceased got off the car to push the trip over the frog or the mules took the straight road is not known. Anyway he was caught in a space of six inches and there held for some time before he was discovered dead. Had the regular driver taken the empty cars to the face as was customary when the mine was idle, the accident would have been avoided.
- (23)—July 31st—ANGELO GAFRATO, Italian, pick miner, experience four years, age 23 years, married, one child, employed by The Colorado Fuel & Iron Company at the Toller Mine, Las Animas county, was killed by a fall of rock. Deceased was mining off a pillar when an invisible slip was cut, releasing a large slab of rock which fell on him, injuring him so severely that he died a few hours later. The place was well timbered and it was an unforeseen accident for which no one could be held responsible.

- (24)—August 2nd—CAMILLO BIANCHI, Italian, pick miner, experience 12 years, age 33 years, widower, four children, employed by The Colorado Fuel & Iron Co., at the Sopris mine, Las Animas county, was injured July 25th, by being crushed between a loaded car and prop and died on the above date. Deceased and two other men were riding on a loaded car and when they reached the parting, deceased leaned over to set the brakes and in this act was caught by a prop and squeezed between it and the car. The men were riding the loaded car in violation of the rules concerning the riding of cars, but the management of the mine must have been lax also in not enforcing these rules strictly.
- (25)—August 4th—DAVID WILLIAMS, Welsh, motorman, experience 10 years, age 27 years, married, two children, employed by The Canon-Reliance Coal Co., at the Canon mine, Fremont county, came to his death by electrocution. Deceased was standing in the cab of his motor in the act of pressing down the trolley pole to disconnect it from the line when his foot slipped and the spring of the pole pressed him against the wire. He called for help but before he could be released he was overcome by the shock and could not be revived. It was an accident that was not foreseen and therefore was "unavoidable."
- (26)—August 5th—ALEC McBIRNIE, American, fire boss, experience 30 years, married, six children, employed by The Alamo Coal Co., at the Alamo mine, Huerfano county, came to his death by a gas and dust explosion. See report by Mr. James Dalrymple.
- (27)—August 27th—GREGORIO ROSSETTI, Italian, pick miner, experience 8 years, age 41 years, married, two children, employed by The Colorado Fuel & Iron Co., at the Berwind mine, Las Animas county, came to his death by electrocution. Deceased was on his way home and instead of going through the dip manway, continued through the dip parting where his head came in contact with a trolley wire killing him instantly. It seems that several men had been moved to this section of the mine while the regular mine foreman was away on a vacation and the assistant mine foreman neglected to inform these men of the dip manway. The result was that the men traveled out through the dip parting and no attention was paid to the risk they were running in taking this way out. Had proper sign boards been put at the entrance of the manway, and the men been warned not to use the dip parting, the accident might have been avoided.
- (28)—August 16th—JOSE GONZALES, Mexican, pick miner, experience 12 years, married, no children, employed by The Oakdale Coal Company, at the Oakdale mine, Huerfano

county, was killed by a fall of rock. Deceased and his partner were driving a skip in a pillar room and cut into two invisible slips releasing a rock which fell on Gonzales, killing him. His partner was also struck by the rock but was not injured. The place was well timbered and the men were considered good workmen. The accident was unforeseen and due to the inherent danger of the work.

(29)—August 16th—E. L. STONE, American, pick miner, experience 20 years, age 39 years, married, two children, employed at The South Canon Mine Leasing Co., at the South Canon mine, Garfield county, came to his death through a missed shot. Deceased and his partner were working in an upraise to make connection with a cross-cut. Two cutting shots had been charged and tamped. At four o'clock the shot firer ignited them and waited with the men on the entry. They heard a shot and waited another twenty minutes as they were not sure whether both shots had gone off. Then the shot firer and partner of deceased went back to examine the shots and could not determine whether both shots had gone off or not. The shot firer warned the partner to be careful but deceased was not present when the shots were examined and did not know that there was any doubt about the shots having gone off when he entered the place at seven in the evening to finish the work. Deceased's partner again examined the place before starting to work and then left deceased to work there while he went down some distance to a blower fan to lift air to the upraise. About five minutes later the shot went off causing injuries to deceased from which he died an hour afterwards. The shot firer who is also mine foreman, should have kept the men out of the place until he had satisfied himself that it was safe for the men to work. Deceased came to his death through no fault of his own but through the carelessness of his co-worker.

(30)—August 23rd—JOE SLISKOVICH, Austrian, pick miner, experience 10 years, age 40 years, single, employed by The Colorado Fuel & Iron Co., at the Coal Creek mine, Fremont county, was injured August 13th, by a fall of rock and died on the above date. Deceased was in the act of setting additional road props when a rock fell from between center prop and road post. The accident was unavoidable and occurred when deceased was doubling the props to increase the safety to the place.

(31)—August 26th—HENRY TAYLOR, colored, machine miner, experience 13 years, age 53 years, widower, one child, employed by The Colorado Fuel & Iron Co., at the Robinson No. 2 mine, Huerfano county, was killed by a fall of rock. Deceased and his partner were driving a cut-off in a part of a

mine abandoned and partially caved, in order that the faces of rooms in this part could be picked up and worked. An intersection had been made into one of the rooms and a shot placed directly under an invisible slip in the roof. The shot had not thrown out the coal but made it loose enough to be removed with a pick. While thus engaged a large rock gave way from the slip and fell, killing deceased instantly and striking the foot of his partner, injuring it so seriously that in all probability it will have to be amputated. The place was well timbered and the accident was unforeseen and is classed as unavoidable.

- (32)—September 16th—URIE JAMES, American, shot firer, experience two years, age 32 years, married, no children, employed by The Rocky Mountain Fuel Co., at the Columbine mine, Weld county, was killed by a fall of drawslate. Shots at this mine are fired by hand batteries, five shots to a place. Shots are fired one at a time because the batteries are not of sufficient strength to fire more. Three holes had been drilled midway in the seam and one in each rib in the roof. Deceased had fired the midway center shot, returned and fired the midway rib shot and when he returned to fire the other midway rib shot he was caught by a fall of drawslate. Undoubtedly the density of the smoke was such that deceased could not see the roof, this condition was responsible for the accident. Where a shot firer has fired a shot or shots and has to return to the same place to fire another shot or shots, sufficient time should be allowed for the place to be cleared of the smoke from the first shot before he returns.
- (33)—September 19th—EVRET AMIDEI, Italian, pick miner, experience 14 years, age 32 years, single, employed by The Oakdale Coal Co., at the Oakdale mine, Huerfano county, was killed by a fall of "boney." Deceased and three other men were extracting pillars. The roof overhead consisted of coal and sandstone streaked occasionally with "boney," but the parting between the layers was so smooth that it had the appearance of being the regular roof. It had been tested and no looseness was detected and place was well timbered. Deceased was shoveling coal into a car when a piece of "boney" about four feet long by four feet wide and four inches thick, jumped out and struck him, killing him almost instantly. Examination showed that the accident was unforeseen and therefore was unavoidable.
- (34)—September 24th—JESUS E. MARTINEZ, Mexican, pick miner, experience three years, age 23 years, employed by The Mutual Coal Co., at the Mutual mine, Huerfano county, was killed by a fall of coal. Deceased and his partner were engaged extracting pillar and room neck stumps in an entry. There

was some rock accumulations piled up against the ribs and in some places slabs of coal had become loosened. The mine foreman visited the place and instructed the men to remove some of the loose rock in order that a turn could be laid. While shoveling away the rock a slab of coal rolled over and struck deceased, injuring him so severely that he died a few hours later. The accident might have been avoided had the mine foreman warned deceased, who had little experience of the danger attending the extraction of pillars, that coal might roll over when the rock was removed.

(35)—October 3rd—TONY MUSELLI, Italian, pick miner, experience 15 years, age 38 years, married, two children, employed by the Jewel Collieries Co., at the Jewel Mine, Las Animas county, was killed by a fall of rock. In the section where the accident occurred all the rooms had been finished and some of the pillars extracted. A squeeze was coming on which caused heavy bumps. Deceased and his partners had decided not to work this point any longer on account of the heavy bumps and were going to pull up the rails. However, before they were able to again sound the roof, a large rock fell on deceased, injuring him so severely that he died a few hours later. It is possible that the accident might have been avoided had cross bars been set on the haulage road along the skip when it was found that a squeeze was commencing.

(36)—October 15th—SAM MONTROYA, Mexican, parting tender, experience 5 years, age 25 years, married, four children, employed by The Oakdale Coal Co., at the Oakdale mine, Huerfano county, was killed by being thrown from a car against a rib. Deceased was riding an empty trip of cars in a section of the mine where there was a squeeze and cars were pulled by ropes manipulated by two parting tenders. It was a violation of the rules of the mine to ride on these cars, consequently deceased came to his death by disregarding the rule which forbade him to ride in this section of the mine.

(37)—October 30th—JOSEPH VALDEZ, South American, slate picker, experience two years, age 19 years, single, employed by The Three Pines Coal Co., at the Three Pines mine, Las Animas county, was injured October 15th, 1924, by either falling on the edge of the shakers or came into contact with the belt of the pulley, at any rate he received flesh wounds two inches long under the right arm pit and blood poison set in, from which he died on the above date. The accident is classed as unavoidable.

(38)—November 11th—IKE TRUJILLO, Mexican, machine miner, experience 18 years, age 39 years, married, three children, employed by The Victor-American Fuel Co., at the Chandler mine, Fremont county, was killed by a fall of rock. Deceased's

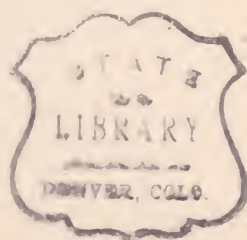
attention had been drawn to a dangerous rock at the face on the roadway and he set two props to serve temporarily until he had loaded a car. Evidently the props were inadequate to support the rock for it came down and struck deceased, killing him instantly. The accident probably was due to the faulty judgment of deceased in not securing the rock properly at the start.

- (39)—November 13th—BURT KING, American, pick miner, experience only three days, age 36, single, employed by The Alamo Coal Co., at the Alamo mine, Huerfano county, was killed by a fall of rock. The day previous, the mine foreman and his assistant visited the place where deceased and his partner, who was also his brother, were working, and as neither had any experience, the officials gave them instructions how to protect themselves. Especially to leave the coal at the bottom lay until the loose coal left hanging after shooting was taken down also any loose rock or slabs detected. Before leaving the place the mine foreman and his assistant removed all loose pieces of rock and declared the place safe. Deceased's partner testified that on the morning of the accident they did as instructed, pulled down all the loose coal and examined the roof and thought it safe. They started to shovel coal and while in this act a piece of rock fell down and struck deceased. It is possible that the accident might have been avoided had one of the men been an experienced miner.
- (40)—November 20th—JOHN L. DAVIS, Welsh, driver, experience 32 years, age 48 years, married, three children, employed by The Yampa Fuel Co., at the Yampa mine, Routt county, was killed by falling off his car. Deceased was driving a car and the tail chain became loose causing him to lose his balance throwing him in front of his car which ran over him and caused such injuries that he died shortly after. The accident was a mischance and is classed as "unavoidable."
- (41)—November 26th—FILBERTO GARCIA, Mexican, rope rider, experience 10 years, age 23 years, married, one child, employed by The Empire Coal Mining Co., at the Empire Mine, Las Animas county, was struck by a haulage rope from the effects of which he died four hours later. Deceased was riding on the front end of an empty trip going down the slope. Somehow he either was thrown off or he fell off the car in such a position that the haulage rope was drawn over his face and head mangling him so badly that death resulted. There was no eye witness to the accident but deceased was performing his duties and it was due to the hazard of his work.
- (42)—November 30th—TONY BRUZES, Greek, pick miner, experience 7 years, age 29 years, single, employed by The Hayden Bros. Coal Corp., at the Hayden mine, Routt county, was in-

jured November 28th by an explosion of powder and died on the above date. Deceased was in the wash house changing his clothes when John Janko came in carrying a powder jack filled with powder. He said that he saw a powder jack standing in the electric circuit breaker box and as he put his can down the other exploded causing such a flame that it encircled deceased burning him so seriously that he died from the effects of it, also burning Janko badly. The electric current to the wash house runs continuously to light the wash house. It is not known who placed the powder jack in the electric circuit breaker box, it was done in violation of the rules of the company and was punished by dismissal.

(43)—December 17th—ANGELO STAMBELOS, Greek, pick miner, experience 9 years, age 30 years, single, employed by the Oakdale Coal Company, at the Oakdale mine, Huerfano county, came to his death by a fall of coal. Deceased and his partner were extracting a pillar and had undermined about one foot of the nine foot coal measure for a distance of four feet. Before starting to load, as it was not practicable then to pull down the overlying coal, they examined the face and considered it safe to work by. However, while loading, a bump occurred forcing out a large piece of coal from an invisible slip, which fell on deceased killing him instantly. The place was well timbered and the accident was due to one of the sudden bumps which take place in this mine when extracting pillars. It might have been avoided had the men set more sprags against the face.

(44)—December 27th—WM. H. DAILY, American, pick miner, experience 20 years, age 38 years, married, no children, employed by the Juanita Coal & Coke Company, at the King mine, Delta county, was killed by a fall of coal. Deceased and three other men were loading two cars of coal off pillars in an entry. A bump occurred throwing about a ton of coal on deceased, killing him instantly. Prior to the bump, the coal adhering to the top was examined and found solid. From the evidence given, it appears that the accident was unavoidable as it was not foreseen.







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